SAMSUNG TECHWIN

32 CHANNEL
64 CHANNEL NVR

User Manual

SRN-6450/3250
SNR-6400/3200

CE

SAMSUNG

32 CHANNEL
64 CHANNEL NVR
User Manual

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Warranty

If the product does not operate properly in normal conditions, please let us know. Samsung Techwin will resolve the problem for free of charge. The warranty period is 3 years. However, the followings are excluded:

- Data loss due to a damaged hard disk
- If the system behaves abnormally because you run a program irrelevant to the system operation.
- Data loss due to virus infection
- Deteriorated performance or natural worn-out in process of time
- Sensory phenomenon that does not affect the performance or quality of the product (ex: working noise).

❖ **Design and specifications are subject to change without prior notice.**

❖ **The default password can be exposed to a hacking thread so it is recommended to change the password after installing the product.**
Note that the security and other related issues caused by the unchanged password shall be responsible for the user.

Preface

Thank you for choosing a Samsung Network Video Recorder (Disk Player) product.
This instruction manual provides detailed information and instructions for the NVR network DVR products. Please read this manual and any supplementary document(s) thoroughly before attempting to install and/or operate the product.
The contents of this manual, and the software and hardware explained herein, are protected by copyright law. All copy, reprint and translation to other languages of a part of or all of the contents of this instruction manual without permission of Samsung Techwin Co., Ltd. are expressly prohibited except for fair use within the scope of copyright law.
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Product Warranty and Limited Liability

The manufacturer of this product is not responsible for the sale of the product, nor does the manufacturer delegate such responsibility to a third party. The product warranty does not extend to any accident, neglect, alteration, or misuse of the product. Furthermore, this warranty does not cover any components or parts that are not supplied by the manufacturer of this product.
The product warranty period is for three years from the purchase date. However, the warranty does not cover any of the following problems, and a nominal service fee will be charged if:

- Product has been improperly used or handled by user.
- Product has been disassembled and/or altered by user.
- Product has been damaged by connecting a power supply with improper specifications.
- Product has been damaged due to an "Act of God" (fire, flood, tsunami, natural disaster, etc.)
- To replace expendable components: HDD, Fan, etc.
  (The warranty for the HDD and Fan is valid for one year from the purchase date.)

This warranty covers only the product supplied with the warranty.
After the warranty period (three years) has expired, a service fee will be charged for any inspection and/or repair for the product. During the warranty period, a service fee will be charged for repair and/or inspection for the product for any problems that are not covered by the warranty.

This product is not an anti-theft or fire-prevention device; the manufacturer is not responsible for any damage to property or personnel that may occur during its use.

This product must be installed by skilled and experienced personnel; self-installation by the user is prohibited. Self-installation by the user may result in fire, electrocution, and/or product malfunctions. Please contact your local dealer for assistance with the installation of the product.

The contents of this manual may change in order to accommodate upgrades in firmware and/or software. Also, the specifications and/or design of this product may change without prior notice for product improvement.

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Chapter 1. Overview

This digital video recorder plus disk player features HDD storage and playback capabilities for 64/32-channel digital video.

Setting up this recorder is easy; you may use the buttons on the front of the product, or connect to the product remotely via a network.

With proven performance and reliability, the NVR is a self-sufficient video recorder as well as ideal for digital video feed storage for monitoring systems of banks, apartment buildings, and public offices that require a high security level. Since video is stored on hard disk, there is no loss in picture quality due to repeated playback from the storage media. Further, since all video data is stored as digital files, it is easily and quickly searchable.

This high-resolution video recorder features a large storage capacity and also comes with a wide variety of user-friendly features such as: Simultaneous recording and playback capabilities, motion detection, PTZ (pan, tilt, zoom) control, password, real-time voice data recording, convenient access permissions setup using Key Lock, and maintenance of up to 10,000 event lists and log files.

1.1. Safety Precautions

Warning

The following information or instruction is vital for user safety; please read it thoroughly to avoid serious injury or death.

❖ Installing the Product

- ✓ Please check the power outlet voltage (AC 100V~240V) before you connect the power to the outlet.
- ✓ Make sure that the product is switched off before you install it.
- ✓ To avoid the risk of electric shock and/or fire, do not install the product in a damp area.
- ✓ The product must be grounded to reduce the risk of electric shock.

❖ Using the Product

- ✓ Opening or removing the product case will expose you to the risk of electric shock; do not open or remove the case unless you are a qualified technician.

- ✓ To prevent electrical fire, do not connect multiple power cords to a single outlet.
- ✓ Do not place heavy objects or vessels containing water on the unit since it can cause serious malfunctions.
- ✓ Do not use this item in a location containing propane gas, gasoline, or other flammable substances to avoid risk of explosion or fire.
- ✓ To avoid the risk of electric shock, do not touch the power plug with moisture on your hands.
- ✓ Make sure that no electrically conductive material enters the cooling vent.
- ✓ Do not pull on the power plug with any force; a damaged plug may cause electric shock or fire.

❖ Disassembling and Cleaning the Product

- ✓ There is a risk of malfunction, shock, or other dangers. Do not disassemble or attempt to fix or alter the product yourself.
- ✓ Do not clean the product with water, paint thinner, or other organic solvent as doing so may cause product malfunctions and/or electric shock. When cleaning the product, use a dry cloth to wipe the exterior of the device.

Caution

Misuse or wrongful operation of the item may result in injury or damage to the item. It indicates caution should be observed when operating.

❖ Installing the Product

- ✓ When installing the product, please leave at least 15 cm of space between the cooling vent and the wall for proper heat dissipation.
- ✓ To prevent user injury and product damage, please install the product on a level surface with no risk of the product falling.
- ✓ Avoid installation in an environment where the product will be exposed to heat or direct sunlight; product deformation and/or damage may result.

- ✓ When installing the closure, take into consideration the operating temperature and humidity of the installation environment according to the product specifications (see Appendix).

❖ Using the Product

- ✓ Avoid shock and vibration while operating or moving the item.
- ✓ Do not move the product while it is in operation; do not expose the product to strong impact or throw the product.
- ✓ If you wish to add a hard disk to the product, please contact your vendor; adding a non-recommended hard disk may cause the product to function abnormally.
- ✓ Arbitrarily adding a hard disk to the product will void your product warranty.
- ✓ This product is not an anti-theft or fire-prevention device; the manufacturer is not responsible for any damage to property or personnel that may occur.

Caution

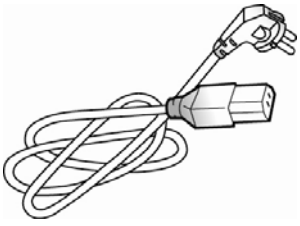
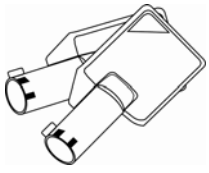
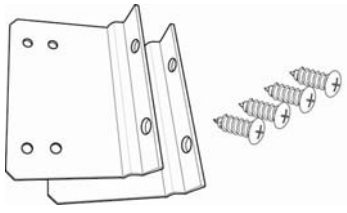
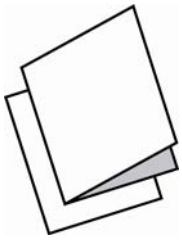
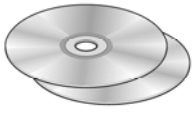
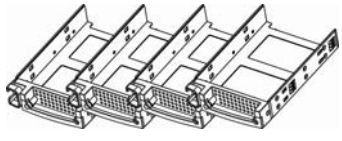
Samsung Techwin recommends the installation of a UPS (Uninterrupted Power Supply) with all its recording products.

Samsung Techwin cares for the environment at all product manufacturing stages to preserve the environment, and is taking a number of steps to provide customers with more environmentally friendly products.

The Eco mark represents Samsung Techwin's will to create environmentally friendly products, and indicates that the product satisfies the EU RoHS Directive.

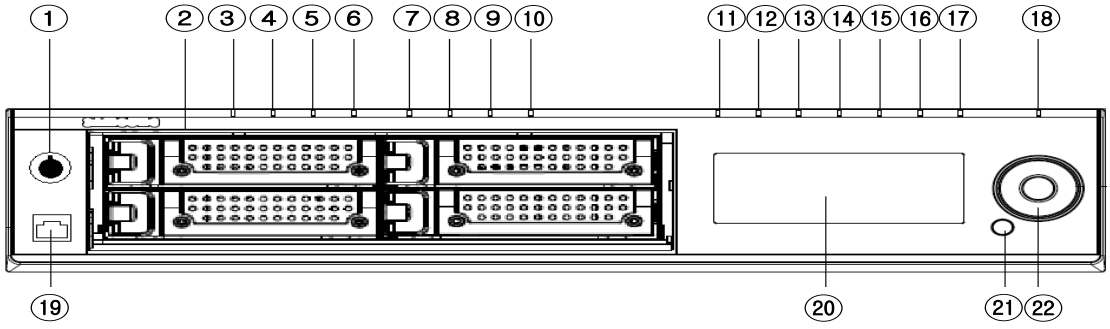
1.2. Product Contents

The contents of this product are as shown below.

 **Power Cord**	 **Key**	 **Rack Mount and Fixture Screws**
HDD Fixture Screws	**User's Manual**	 **Quick Reference Guide**
 **NET-I Viewer/User's Manual CD**	**Cross Cable**	 **HDD Tray (4EA)**

Chapter 2. Part Names

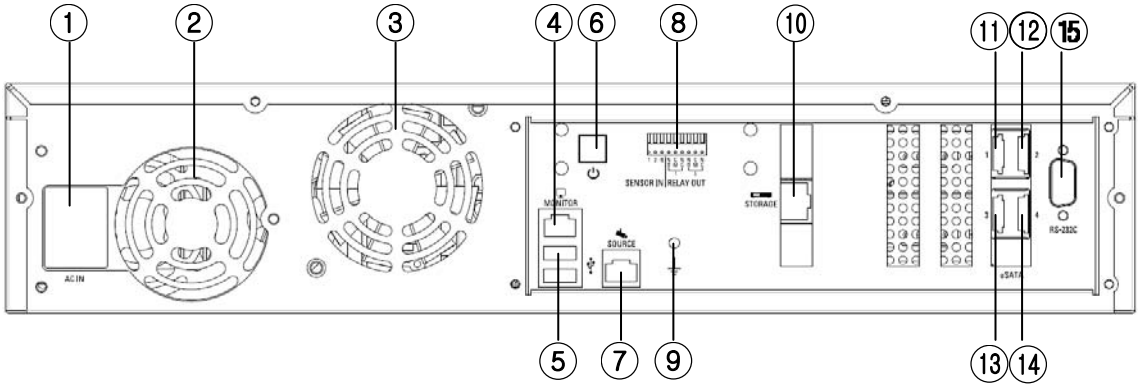
2.1. Front Panel



No.	Name	Function
1	Key Lock	Turning the key completely engages the lock, so the buttons on the front panel cannot be accessed and the HDD bay door cannot be opened.
2	SATA-Bracket	Mounts hard disks for storing recorded video. Up to four hard disks can be mounted. Mounted HDDs are referred to as Internal HDD1 (upper left), Internal HDD2 (upper right), Internal HDD3 (lower left), and Internal HDD4 (lower right.)
3	Internal HDD1	A blue indicator means that Internal HDD1 is installed and functioning normally. A red indicator means that Internal HDD1 is not functioning properly.
4	Internal HDD2	A blue indicator means that Internal HDD2 is installed and functioning normally. A red indicator means that Internal HDD2 is not functioning properly.
5	Internal HDD3	A blue indicator means that Internal HDD3 is installed and functioning normally. A red indicator means that Internal HDD3 is not functioning properly.
6	Internal HDD4	A blue indicator means that Internal HDD4 is installed and functioning normally. A red indicator means that Internal HDD4 is not functioning properly.
7	EXTERNAL HDD1	A blue indicator means that an external HDD is connected to the rear eSATA Port1 and functioning normally. A red indicator means that External HDD1 is not functioning properly.
8	EXTERNAL HDD2	A blue indicator means that an external HDD is connected to the rear eSATA Port2 and functioning normally. A red indicator means that External HDD2 is not functioning properly.
9	EXTERNAL HDD3	A blue indicator means that an external HDD is connected to the rear eSATA Port3 and functioning normally. A red indicator means that External HDD3 is not functioning properly.

No.	Name	Function
10	EXTERNAL HDD4	A blue indicator means that an external HDD is connected to the rear eSATA Port4 and functioning normally. A red indicator means that External HDD4 is not functioning properly.
11	REC	A red indicator means that the product is in recording mode.
12	ALARM	A blue indicator means that an event in Input Group has occurred.
13	ERROR	A red indicator means that the product is not functioning properly.
14	RAID	A blue indicator means that the product is running in RAID mode.
15	LINK/ACT1	A blinking blue indicator means that a network cable is properly connected to the Monitor Ethernet Port, and data communication is taking place properly.
16	LINK/ACT2	A blinking blue indicator means that a network cable is properly connected to the Source Ethernet Port, and data communication is taking place properly.
17	LINK/ACT3	A blinking blue indicator means that a network cable is properly connected to the Storage Ethernet Port, and data communication is taking place properly.
18	POWER	A red indicator means that the product is powered on.
19	Config Ethernet Port	Used to connect the product to a computer for the system configuration.
20	LCD Panel	The panel displays the current status of the product; it can also be used to change the system configuration with the adjacent buttons.
21	ESC Button	This button is used to change the system configuration. 'Chapter 5 LCD Setup' covers its use in detail.
22	Direction Button Enter Button	This button is used to change the system configuration. 'Chapter 5 LCD Setup' covers its use in detail.

2.2. Back Panel



No.	Name	Function
1	AC IN	Used to connect the product power cable.
2	SMPS FAN	This fan cools the power supply.
3	DC FAN	This fan cools the inside of the product.
4	Monitor Ethernet Port	A network port that allows the product to connect to a PC to run Web Viewer.
5	USB Port	Used to upgrade the firmware version of the product.
6	Power Button	Turns on or off the product.
7	Source Ethernet Port	A network port that connects the product to the video camera.
8	SENSOR IN / RELAY OUT	Used to connect a sensor or alarm.
9	GROUND	A terminal that is used to ground the frame to an external device.
10	Storage Ethernet Port	Used to connect NAS (Network Attached Storage) within the same network.
11	eSATA Port1	Used to connect an external HDD.
12	eSATA Port2	Used to connect an external HDD.
13	eSATA Port3	Used to connect an external HDD.
14	eSATA Port4	Used to connect an external HDD.
15	RS232C Port	Unused terminal.

2.3. Default Settings

The following are the factory default settings for the product.

2.3.1. Monitoring Page

Main Menu	Sub Menu	Default Setting
Auto Sequence		Off
Display Mode		16Ch display
Group		1
Channel		1
Info		On
DIT		Off
PT, ZF		PT Activated
OSD		Off
PTZ speed		3

2.3.2. Playback Page

Main Menu	Sub Menu	Default Setting
Time	Channel Calendar Time	- - -
Event	Event Type Channel Date / Time	- - -

2.3.3. Config Page

❖ Record Setup

Main Menu	Sub Menu	Default Setting
Normal Record Config		All frames
Event Record Config	Input Group Active Inactive Pre Recording Time Post Recording Time	own event All frames I frames 5 Sec 5 Sec
Record	Button Time Table	Normal Record selected Always Normal Record

❖ Event Setup

Main Menu	Sub Menu	Default Setting
Local Sensor Type	Sensor1 Sensor2	Normal Open Normal Open
Event Group	Input Group Output Group Action Group	- - -

❖ Camera Setup

Main Menu	Sub Menu	Default Setting
Channel List	Open Channel List	Ch1 ~ Ch16
	Select Channel	Ch01
Channel Setup	Disable/Enable	Disable
	Channel Name	Ch01, Ch02, Ch03, …
	Model	-
	Connection Type	Static IP
	IP	0.0.0.0
	Connection Port	4000
	ID	-
	Password	-
	Picture Type	MPEG
	ATC Mode	Off
	Video Quality	High
	Video Resolution	D1
	Video Framerate	10

❖ HDD Setup

Main Menu	Sub Menu	Default Setting
HDD	Repeat Recording	On
AutoDeletion	Mode	Off
	Duration	180
RAID Mode		Normal
NAS Configuration	Nas Port	Nas1
	Use	Disable
	Name	-
	Default Folder	-
	IP	0.0.0.0
	ID	-
	Password	-

❖ Network Setup

Main Menu	Sub Menu	Default Setting
Monitor Ethernet Port	Connection Type IP Address Subnet Mask Gateway Connection Port Http Port ATC Mode	Static IP 0.0.0.0 0.0.0.0 0.0.0.0 4000 80 Disable
DDNS	Use Server Domain ID Password	Disable www.samsungipolis.com - -
Source Ethernet Port	Connection Type IP Address Subnet Mask Gateway	Static IP 0.0.0.0 0.0.0.0 0.0.0.0
Source DHCP Server	Use IP Range	Disable 0.0.0.0 ~ 0.0.0.0
Storage Ethernet Port	Connection Type IP Address Subnet Mask Gateway	Static IP 0.0.0.0 0.0.0.0 0.0.0.0
DNS	DNS1 DNS2	168.126.63.1 168.126.63.2
RTP/RTSP	Use RTSP RTSP Port RTP Port Use Multicast Multicast Address	Disable 554 4000 Disable 224.0.1.1
E-Mail	SMTP Server Name Use Authentification ID Password E-Mail To	- Yes - - -

❖ **Time Setup**

Main Menu	Sub Menu	Default Setting
Time Configuration	Date Format Time Format Time Zone Use DST	mm.dd.yy 24h (GMT 00:00) Greenwich Mean Time Disable
NTP	Use Client Use Server Public Server1 Address Public Server2 Address Public Server3 Address Public Server4 Address Public Server5 Address	Disable Disable pool.ntp.org asia.pool.ntp.org europe.pool.ntp.org north-america.pool.ntp.org time.nist.gov

2.3.4. System Page

❖ **User**

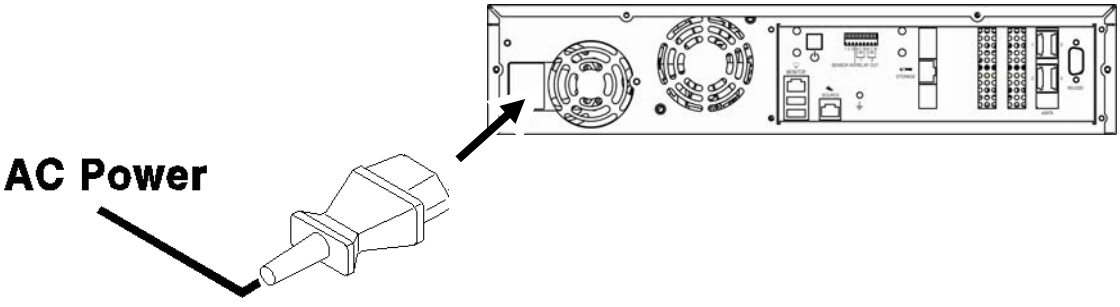
Main Menu	Sub Menu	Default Setting
Admin	Password	11111111
User	ID Password Authority	user 22222222 Only Monitoring is Allowed.

Chapter 3. Installation

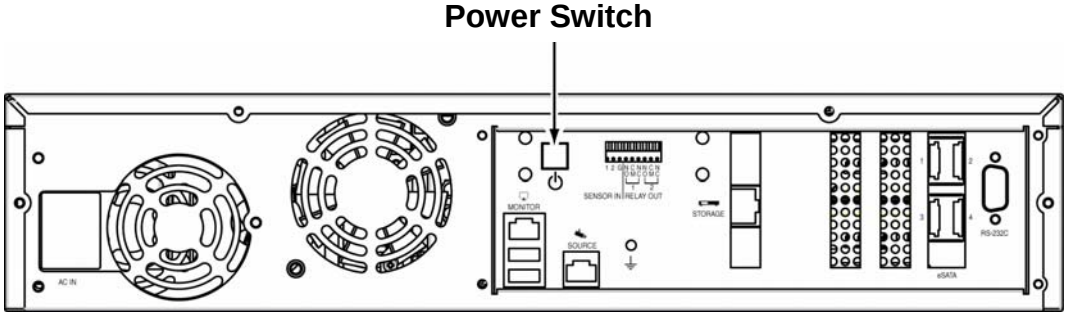
3.1. Installing and Connecting Product

3.1.1. Supplying Power and Operating the Product

Connect the power cord to the product as shown in the picture below.



- Once the power cord is securely connected, press the power switch in the rear panel to boot the system.
- When the product is turned on, you can press the power switch briefly to turn off the product.
- When the system has encountered an error and you can't turn it off normally, you can press and hold down the power switch for five seconds to force the system to shut down.

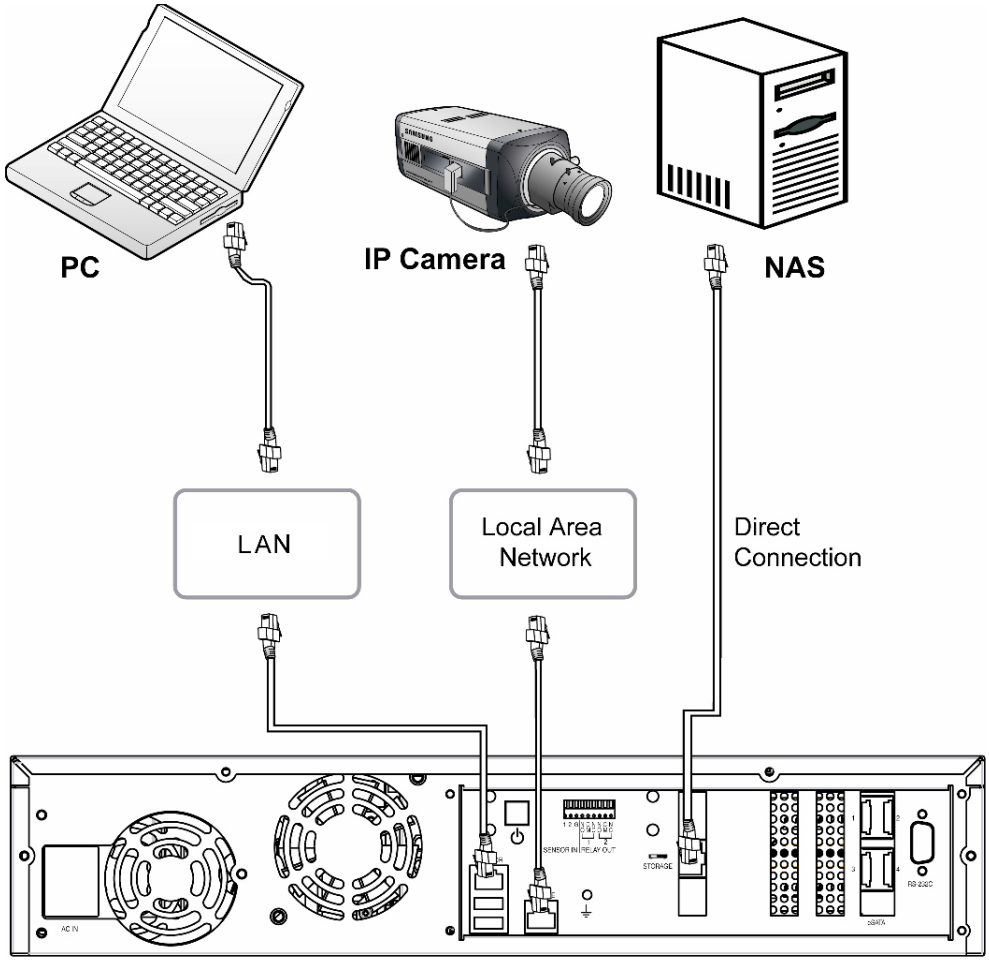


3.1.2. Configuring the Network

The following picture is an example of a network diagram using the NVR. The 3 network ports on the product back panel are for a computer, camera, and NAS (Network attached Storage.) Please Refer to "2.2. Back Panel"

The rear panel network ports can be used for devices within the same network, or in different networks as shown in the example diagram.

.

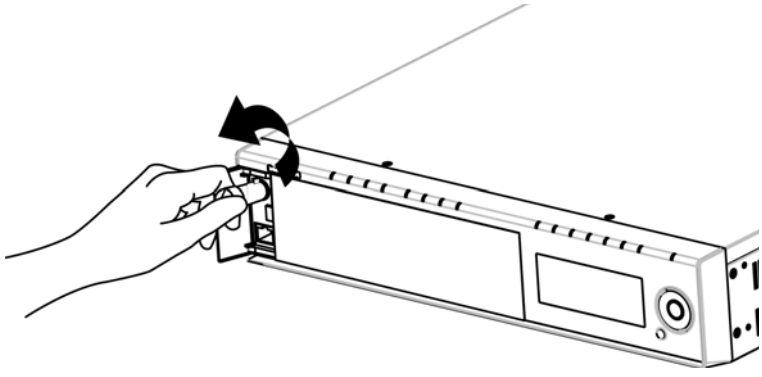


3.1.3. Internal HDD

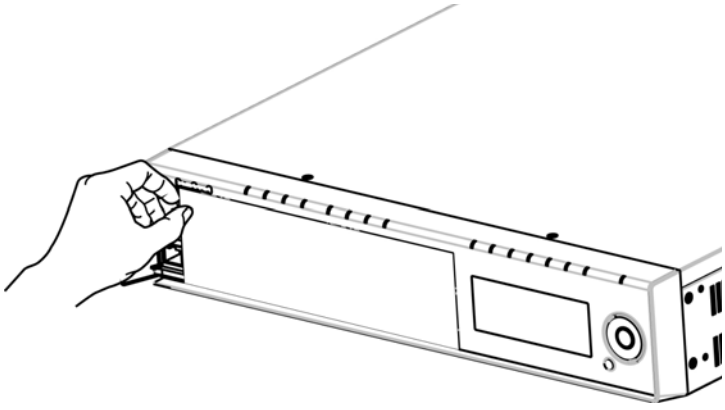
Open the HDD Bay as shown below to add, remove, or replace an internal HDD.

① Press PUSH ▪▪ to open the Locking Door.

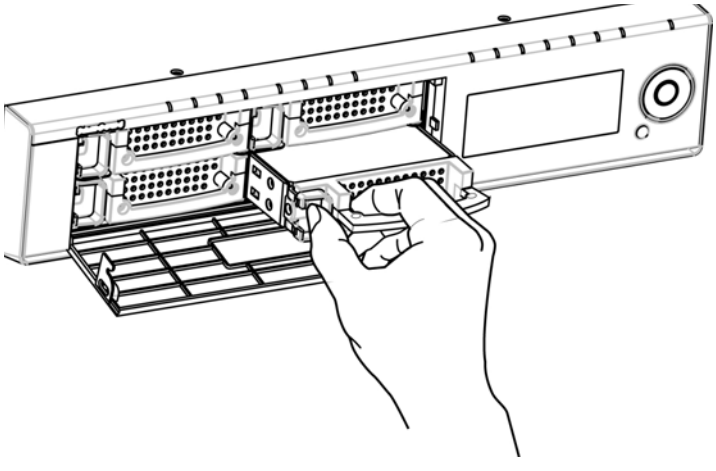
② Turn Key Lock counterclockwise to unlock.



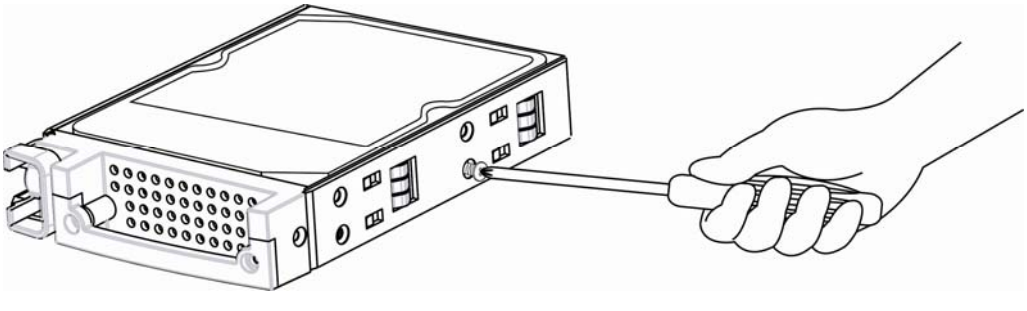
③ Open the HDD Door.



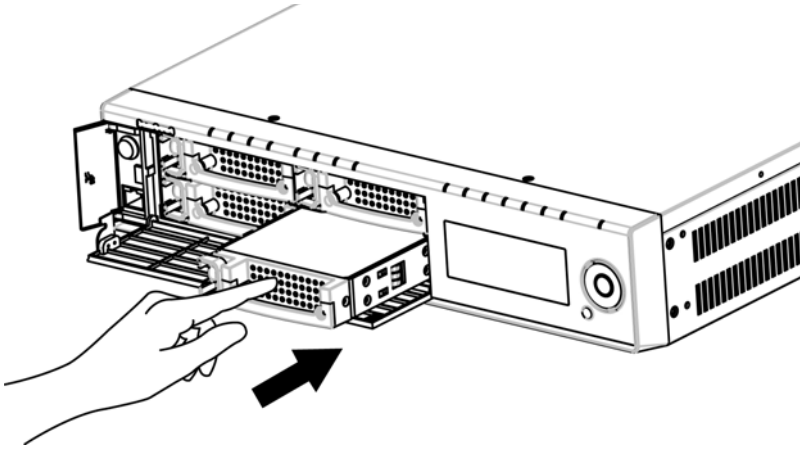
④ While pressing the HDD Hook down, pull on the handle to pull out the SATA Bracket.



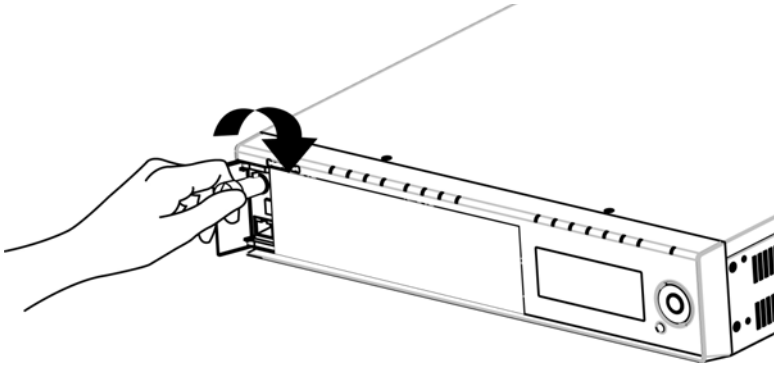
⑤ Unscrew the fixture screws on the SATA Bracket before removing the HDD; fasten the screws securely after you insert the HDD in the SATA Bracket.



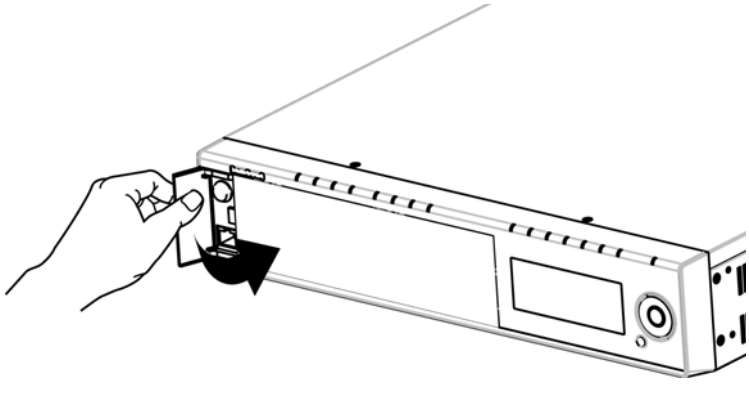
⑥ Make sure that the SATA Bracket is pushed back all the way in the HDD Bay, and close the HDD Door.



⑦ Turn Key Lock clockwise to lock.



⑧ Close the Locking Door.



⑨ When adding a new, unformatted HDD, the product automatically formats the HDD.

```
Formatting HDD
  is in Progress...
```

displaying the formatting process in the front LCD.

```
Internal HDD [2]
Added successfully!
```

Upon completing the formatting process, the message above is displayed in the LCD along with a blue indicator in the HDD LED, indicating that the new HDD is ready to use.

Note

For a list of compatible HDDs, please refer to “**오류! 참조 원본을 찾을 수 없습니다.**.

Caution

Do Not remove an HDD while the product is in operation. To safely remove HDDs, please refer to "5.4. Removing HDDs".

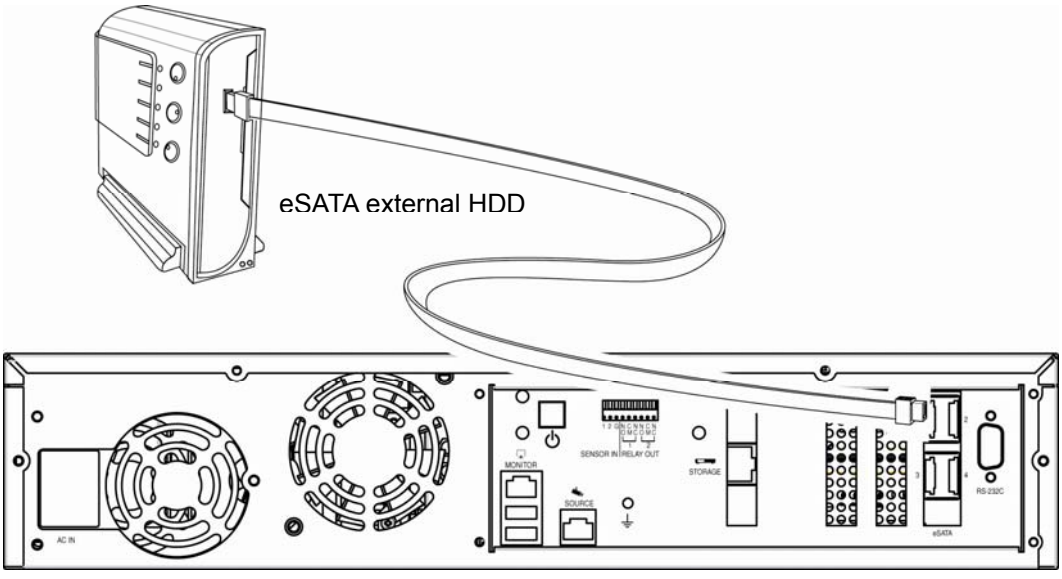
Caution

To lock the HDD door, please make sure to turn Key Lock clockwise completely.

3.1.4. External HDD

The NVR supports an eSATA interface for connecting external storage devices; four eSATA ports are located on the rear panel. The product can have up to 20 TB of storage capacity by utilizing the internal HDDs and eSATA ports. (Based on 1TB data capacity per HDD.)

An external eSATA HDD can be connected to the eSATA port on the rear panel as shown on the next page. Note that an eSATA port does not supply power to the device connected to it; the external device must supply its own power.



Note

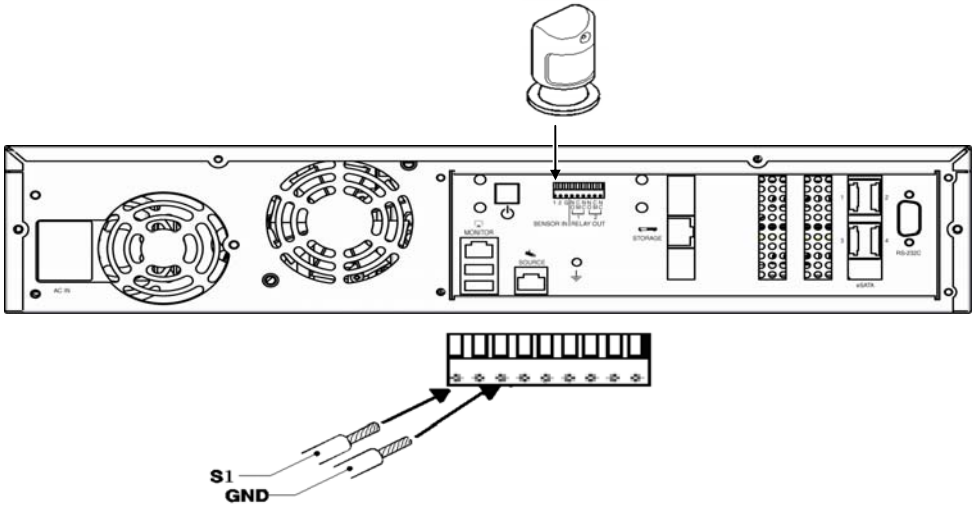
- You may connect an external HDD while the product is in operation. However, this may result in certain models of external HDDs not being detected. As such, it is recommended that you connect any external HDD by following the steps outlined below.
  1. Turn the product off.
  2. Connect the external HDD (also turned off) to the product with an eSATA interface cable.
  3. Turn on the external HDD.
  4. Turn on the product.
- The eSATA cable is not included with the product.
- For a list of compatible HDDs, please refer to"오류! 참조 원본을 찾을 수 없습니다.".

3.1.5. Sensor

The following are specifications and operating conditions for sensor input.

Spec	Number of Input Circuits	2
	Input Types	N.C , N.O
	Supported Sensor Types	Dry Contact sensors.
	Connection Type	Attach stripped wire connections to the terminal block.
Power	DC	150V
	Output Current	Typical DC 12mA

Please refer to the diagram on the next page to connect sensor inputs. It illustrates an example of a dry contact sensor being connected to the product.



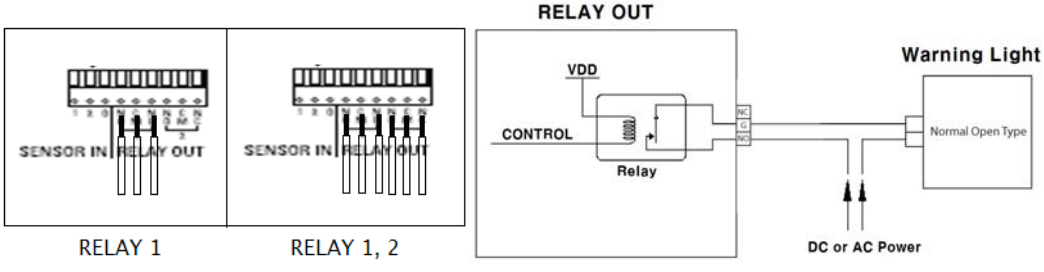
For detailed instructions on connecting sensors, please refer to "4.6.3. Event Setup"

3.1.6. Relays

The following are specifications and operating conditions for alarm output.

Spec.	Number of Input Circuits	2 Relays
	Output Types	Dry Contact.
	Connection Type	Attach stripped wire connections to the terminal block.
Power	DC	30V 1A
	AC	125V 0.5A

When connecting the relay outputs, first determine the attributes of the device to be connected (Normal Open, or Normal Close), then connect the device by referring to the diagram below.



RELAY OUT 1	NC	CM	NO
Normal Close	O	O	-
Common	-	O	-
Normal Open	-	O	O

RELAY OUT 2	NC	CM	NO
Normal Close	O	O	-
Common	-	O	-
Normal Open	-	O	O

For detailed instructions on connecting the relay output, please refer to "4.6.3. Event Setup"

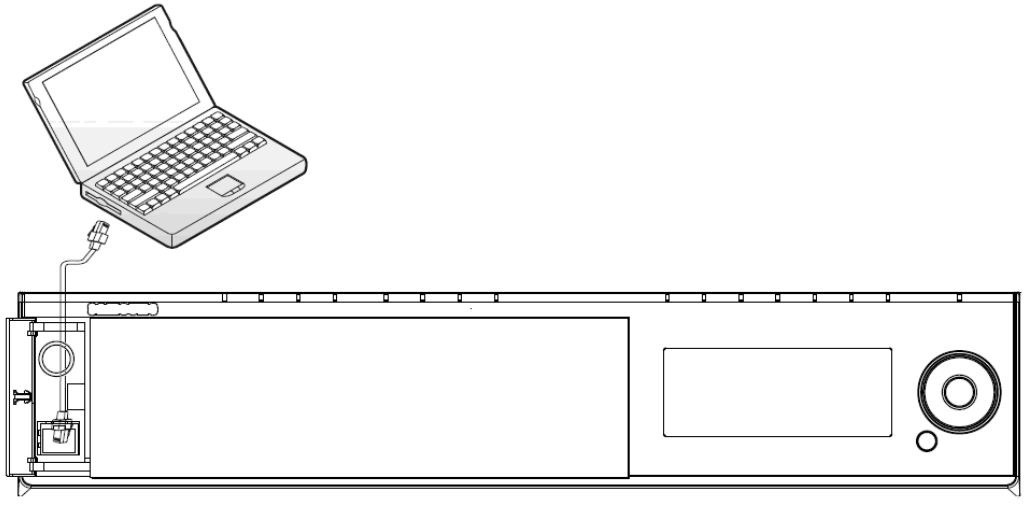
3.1.7. USB

The USB ports on the rear panel are used to upgrade the product's firmware with the buttons on the front panel. Please refer to “5.1.4. System Update “

3.2. Connecting to the Website

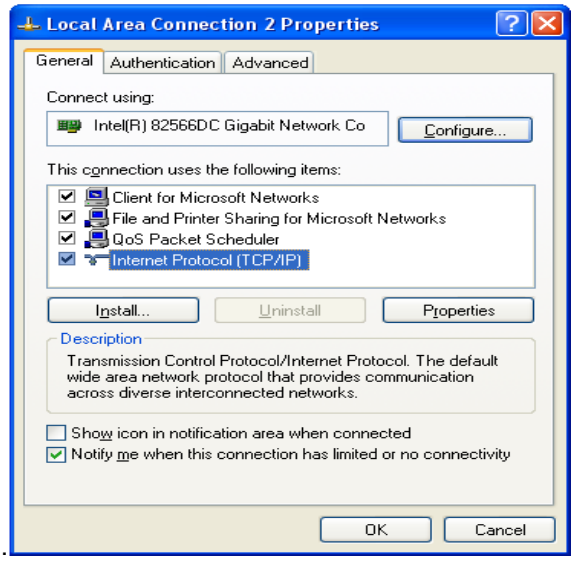
3.2.1. Connecting Cable

Press PUSH ▪▪ on the front panel to open the Locking Door, then connect a PC to the Front Panel Network Port with the supplied crossover cable as shown in the illustration below. (When using a hub to connect the product to a computer, you may use a normal LAN cable instead of a cross-over cable.)



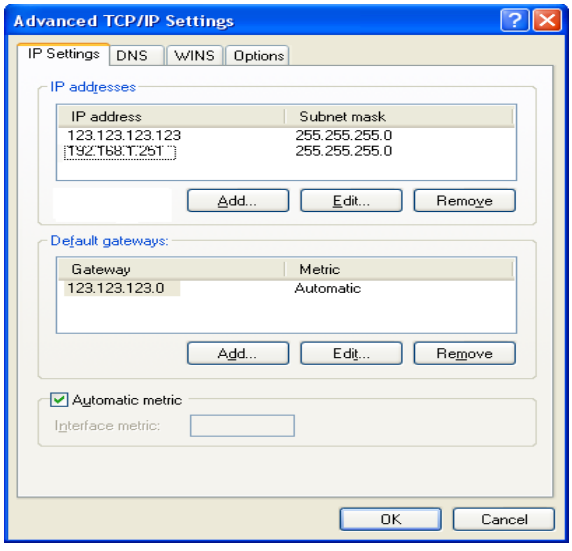
3.2.2. Adding an IP Address

In your computer, click Start > Control Panel > Network Connections > Local Area Connection > Properties.



Select Internet Protocol (TCP/IP.) Click the Properties button then in the Internet Protocol (TCP/IP) Settings dialog, click the Advanced button to open the Advanced TCP/IP Settings

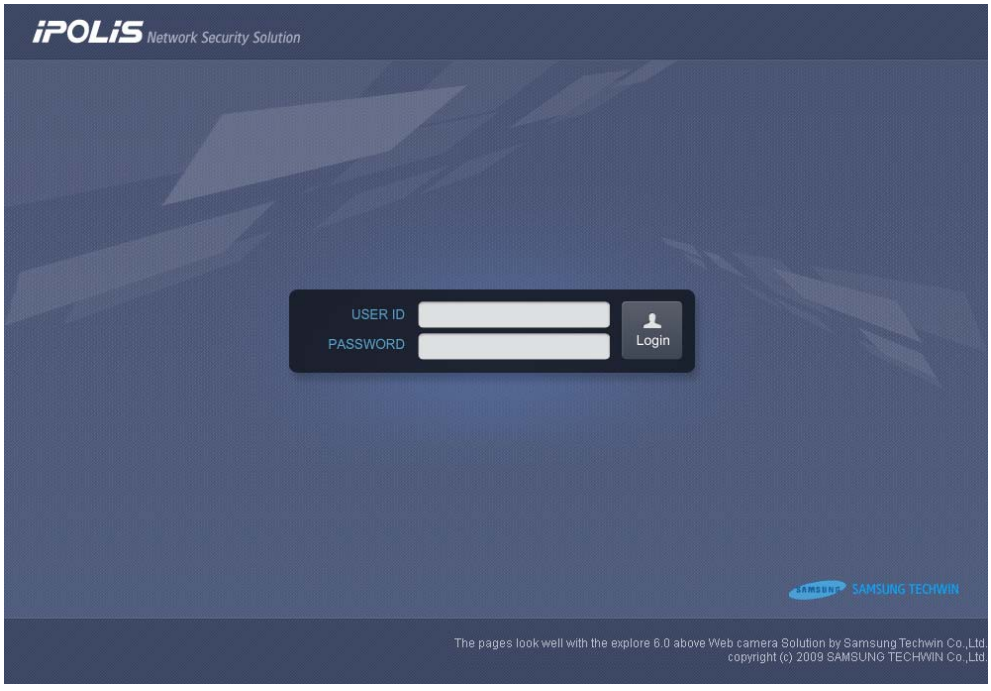
dialog. (If the "Obtain an IP address automatically" option is checked under the Internet Protocol (TCP/IP) Properties window, please click the "Use the following IP address" radio button option before proceeding.)



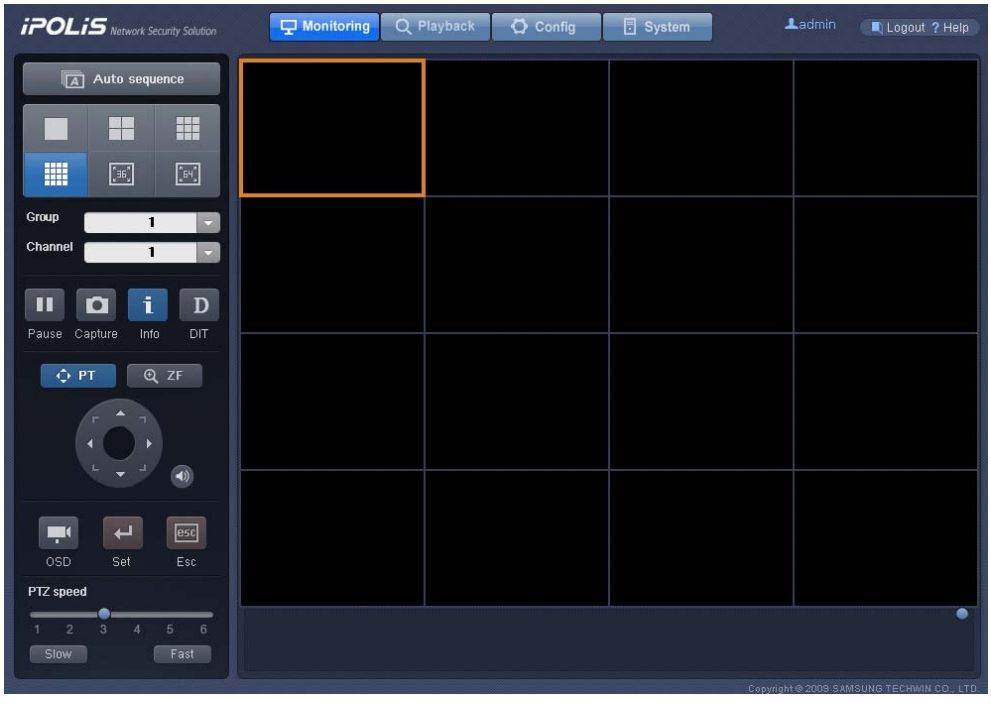
Click Add under IP addresses then enter 192.168.1.xxx. The NVR uses 192. 168. 1. 100 as the IP address; you cannot use the address for your computer's internal IP address.

3.2.3. Connecting and Changing Settings

Type 192.168.1.100 in your Internet browser address bar then press Enter.

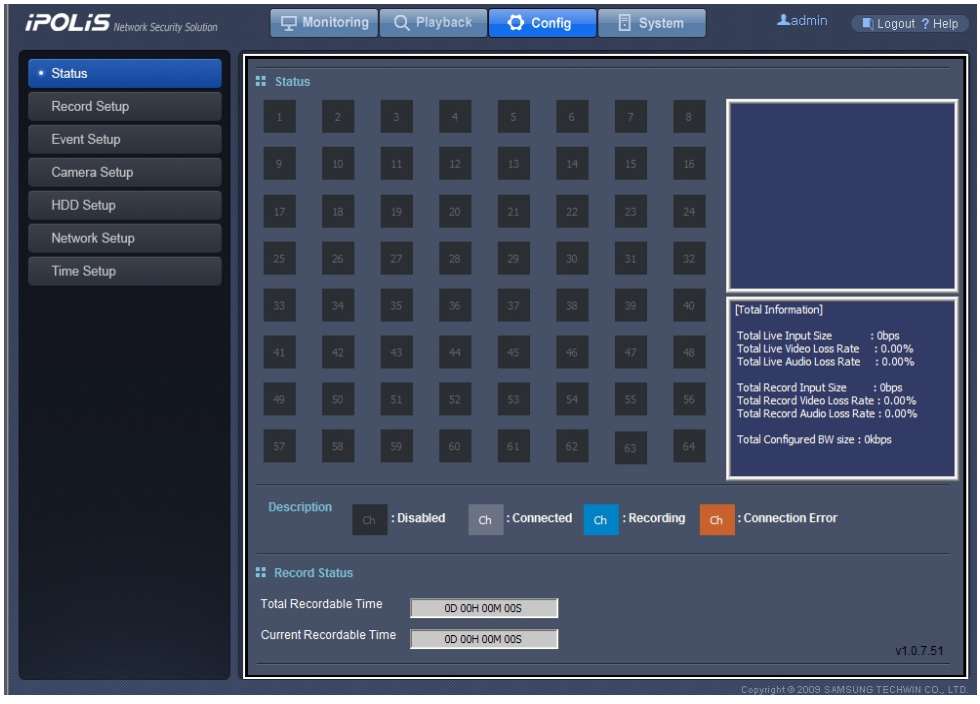


In the login window, enter admin as the User ID and 11111111 for the Password. Click Login to connect to the product.

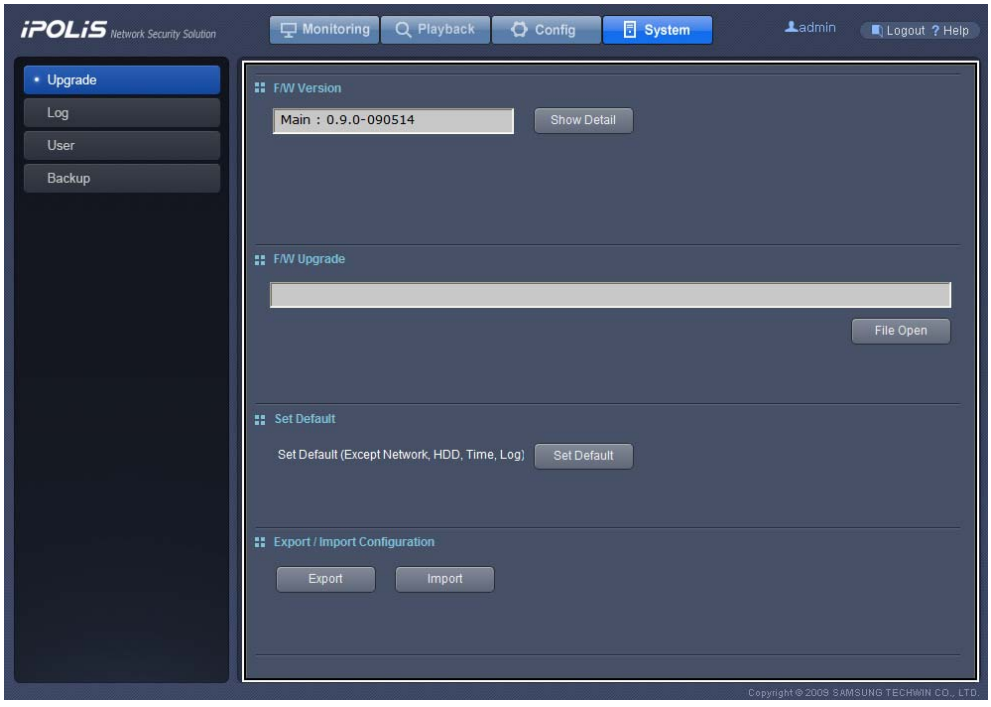


When connecting to the product for the first time, no video displays as no network or camera is set up.

Clicking Config at the top of the screen directs you to a new page, as shown in the screenshot below.



Clicking System directs you to a new page, as shown in the screenshot below.



Use the left menu to set up the product. For detailed instructions on each menu item, please refer to "4.6. Config" and "4.7. System" Once a network is set up,
You can use the Monitor Ethernet Port on the product back panel to connect to the product.

Note

- The IP address for the front port is fixed as 192.168.1.100; this value cannot be changed.
- It is strongly recommended that you change the default administrator password (Admin PW) as soon as possible. For instructions on changing the password, please refer to "4.7.3. User Setup"

Chapter 4. Operation

4.1. System Requirements

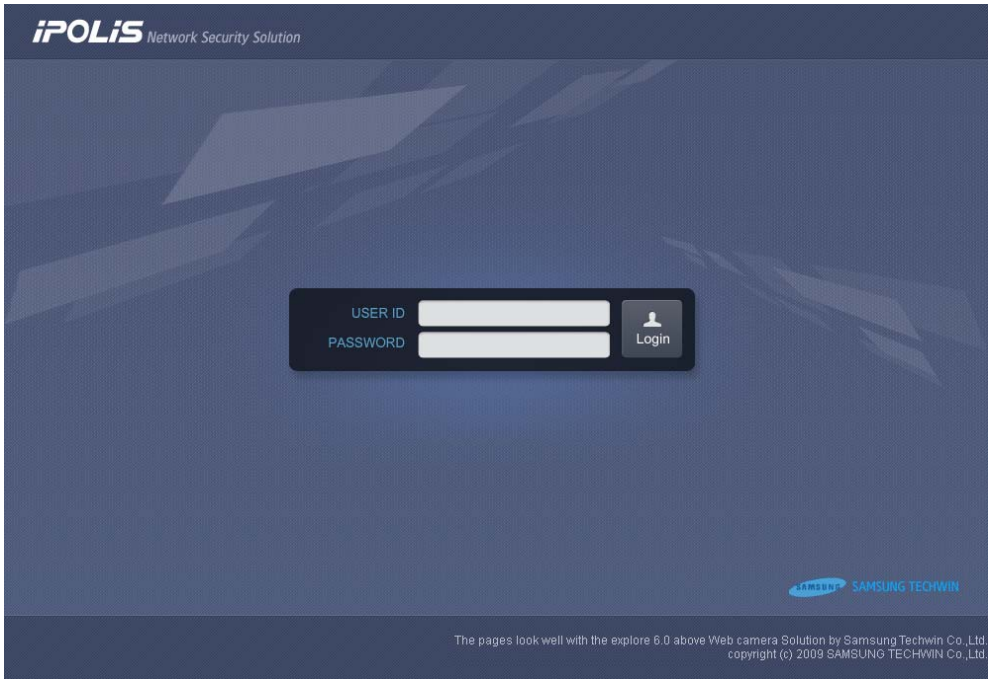
Category	Minimum	Recommended
CPU	Intel Core 2 Quad 2.5GHz or higher	Intel i7 or higher
Main Memory	3GB	4GB or higher
Video Memory	512MB	1GB or higher
Display Resolution	1,280 x 1,024	
Hard Disk	1GB or higher	
Operating System	Windows XP Professional / Windows Vista Business / Windows 7	
Network	Gigabit Ethernet	
Miscellaneous	DirectX 9.0 or higher	

4.2. Compatible Web Browsers

Web Viewer is optimized for use with Microsoft Internet Explorer 6.0 or higher. You must have Microsoft Internet Explorer 6.0 or higher installed on your PC to ensure trouble-free operation of Web Viewer.

4.3. Login

Open a web browser, and then enter the IP address of the product. You are directed to the login page. Enter your ID and password, then click the Login button to connect to the system. You are directed to the Monitoring Page. If you have not set up your own ID and password yet, the default ID is "admin", and the default password is "11111111" (without the quotation marks.) For instructions on changing the ID and password, please refer to "4.7.3. User Setup".



Note

- To connect to the product using the front network port, please make sure to enter 192.168.1.100. To connect to the product using the rear Monitor Ethernet Port, make sure to enter the IP address assigned to the port.
- The connecting port and computer must be within the same network.
- For an HTTP port number with any value other than 80, then the access address is http://<IP address>:<HTTP port number>.
  For example if the IP address is 192.168.1.110, and the HTTP port number is 8080, then the address for Web Viewer is http://192.168.1.110:8080.
- For instructions on changing the Monitor Ethernet Port IP address, please refer to “4.6.6. Network Setup”

4.4. Monitoring

If you are logging in to your Network Video Recorder for the first time, or if you click the

button at the top of Web Viewer, you will be directed to the Monitoring Page where you can view the video feeds from the cameras connected to your product.

4.4.1. Splitting Screen and Changing Channels

You can select the number of video feeds to simultaneously display on-screen by clicking the button in the upper left of the screen. You can have 1-, 4-, 9-, 16-, 36-, or 64-channel video feed(s) displayed simultaneously on-screen; a separate browser window will open to display 36- or 64-channel video feeds. When displaying 1~36 channels, the channels are displayed in groups to manage visibility.

For example, if you are viewing 16 channels simultaneously, then channels 1~16 are displayed in group 1, and channels 17~32 are displayed in group 2, and so on.

is used to select which group or channel you want to view; To watch video in all channels in an orderly manner, click the

button. to activate the Auto Sequence option that cycles through videos in different groups at 7-second intervals. The logs for the current channel are at the bottom of the screen: event (MD, V-Loss), main frame sensor, and relay event. To check the logs, move the button on the right side of the window upward or downward. The names of events like ‘MD’, ’V-Loss’ etc are displayed on the video of channels where events occur.

4.4.2. Video Control

When clicking on a video channel, the selected screen is outlined in orange. With a channel selected, you can use the buttons on left side of the page to control the video feed in that channel.

- Button: Pauses or un-pauses the video feed in the selected channel.
- Button: Captures a screenshot of the current screen that you can save as a JPG picture file.
- Button: displays the name and current time for a channel on the video screen.
- Button: Activates or disables the Deinterlace option on the video for a channel.

Place the cursor over the image and right-click it to display the audio context menu.

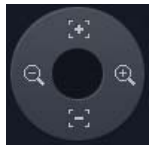
- **Audio**: This works the same as clicking the button on the left side of the screen. Audio playback is from the currently selected channel. An icon ( ) appears to indicate which channel the audio feed is from; you can also click to adjust the volume.
- **Preset**: Displays on a channel video screen. Clicking lets you to select a preset. A Preset is a pre-selected angle and zoom operation for a PTZ camera. Selecting a preset reverts the camera to the previous angle and zoom settings. The NVR only supports loading existing presets. To create new presets, you must manually set them up in your PTZ cameras.

4.4.3. PTZ Control

Click on a channel displayed on-screen; an orange border appears around that channel to indicate that the channel has been selected. With a channel selected, you can use the button on the left side of the page to control the PTZ (pan, tilt, zoom) of the camera for the selected channel.

PT changes the direction that the camera faces. Click the button to display the circular button, shown on the right. Click a direction on the circular button to pan the camera in that direction.

ZF adjusts the zoom and focus of a selected camera. Click the button to display the circular button, shown on the right. Click and to zoom in and out; click and to adjust the focus.



Click the button next to the circular button to play the audio feed from the selected channel. The effect of this button is identical to the Audio option in the right-click context menu.

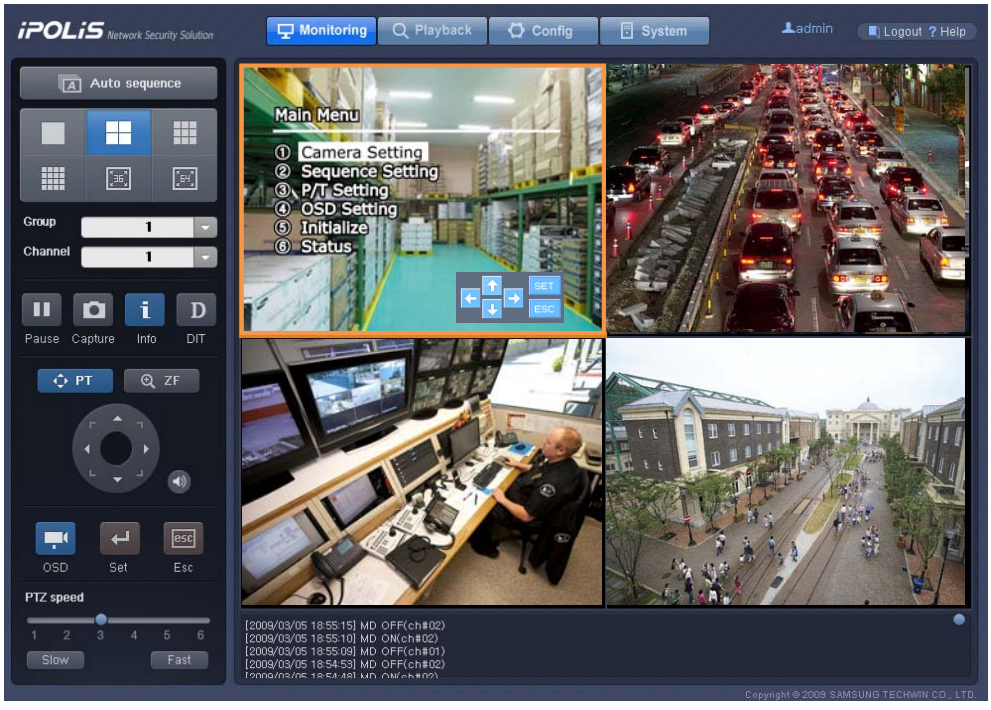
You can adjust the PTZ speed with the slider knob at the bottom of the page. A total of 6 different PTZ speed levels are available. Click Slow to decrease the PTZ speed by one level, and Fast to increase it by one. "1" is the slowest PTZ speed setting, and "6" is the fastest.

Note

The PTZ control and preset options are only compatible with PTZ enabled cameras.

4.4.4. OSD Control

When clicking on a channel video, the video screen is outlined in orange to indicate that it is selected. To display the camera OSD of the selected channel, click on the left side of the screen.



To control the OSD menu, click the

buttons at the bottom of the video screen. To move between OSD menus and change the settings, use the arrow buttons. To move to a sub menu or apply new settings, click the SET button. To move back to the previous menu, click the ESC button. Instead of the SET and ESC buttons on the video screen, you may also use the and buttons next to the button. For detailed instructions on setting up an OSD, please refer to the user manual for the respective camera.

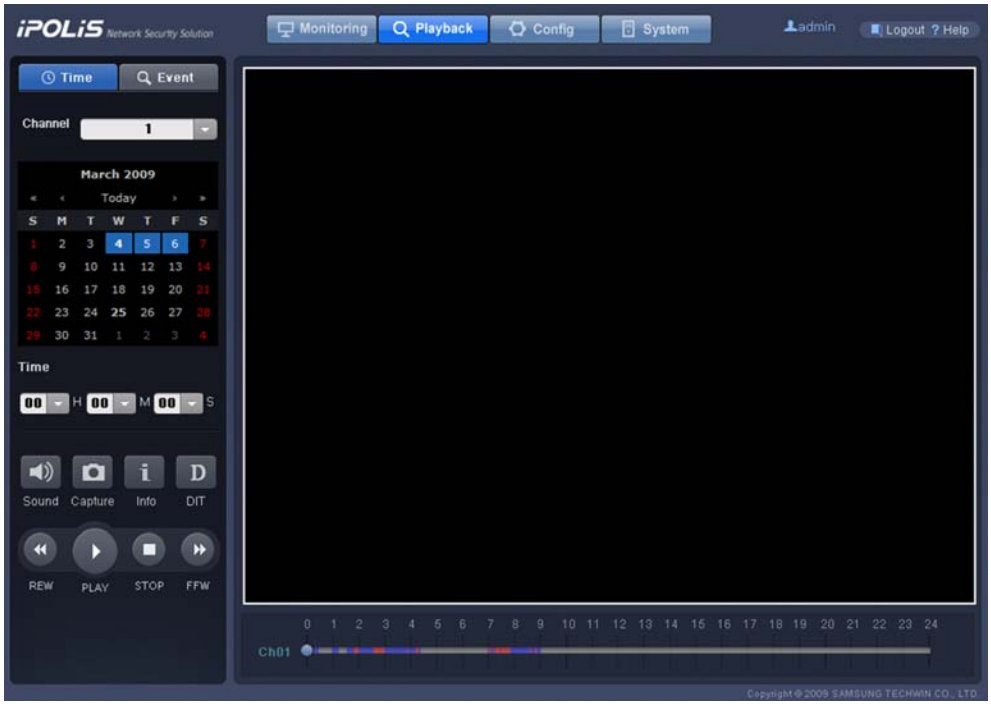
Note

Control of PTZ operations, Preset and OSD is not available in AXIS camera.

4.5. Playback

Click Playback at the top of the screen to display the Playback screen. This screen lets you watch saved videos. There are two ways to use the Playback option; Time enables you to search and watch videos by the recorded time and date, while Event lets you view videos according to events that have occurred. When connecting to the Playback screen for the first time, the Time Search menu appears as the default.

4.5.1. Time Search



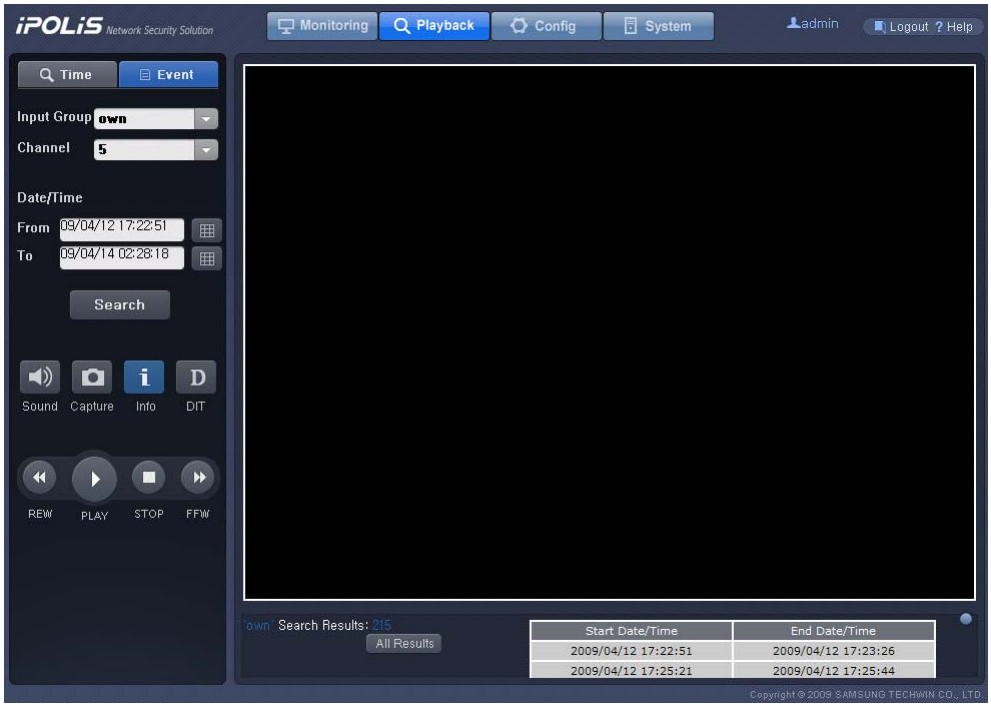
- Channel: Enables selecting a channel.
- To watch a video conveniently, select a date on the calendar under the Channel button. Dates available with videos are displayed in blue, e.g. 4 5
- H M S Time Area: While the video screen is paused, selecting a time and clicking the Play button plays a video at that time. While a video is being played, the Time area displays the recorded time of the video.
- Sound Button: Turns audio on or off for the current video.
- Capture Button: Captures a screenshot of the current screen in JPG format.
- Info Button: Displays the channel name and recorded time of the current video.
- DIT Button: Activates or disables the Deinterlace option for the current video.

- REW and FFW Buttons: Rewind, fast forward, and adjust the current video play speed. While a video is playing, the buttons change to 8X, 4X, 2X, 1X, 1X, 2X, 4X, and 8X, indicating the play direction and speed. The adjusted play speeds are 1x, 2x, 4x, and 8x backward and forward. Each time the REW or FFW button is pressed, the play speed changes by one level.

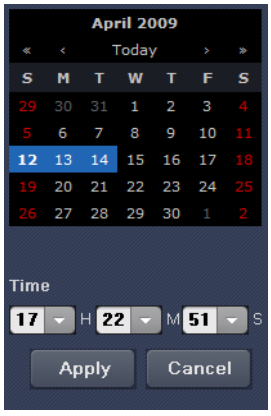
  (Playback or movement by the frame is not supported.)
- PLAY Button: Plays a video. While a video is playing, it changes to the (PAUSE) button. Clicking the PAUSE button pauses the current video.
- Stop Button: Stops a video.
- Move the knob on the slider below the playback screen to seek to a specific video time. A time with available video is highlighted in blue on the time slider while a time with event video is in red.

4.5.2. Event Search

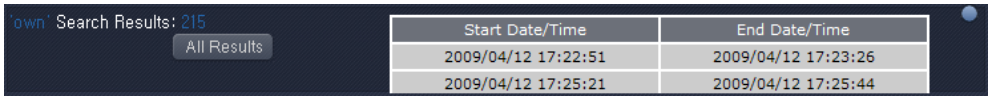
Event displays the Event Search screen, as shown in the picture below. For detailed information about events, please refer to "4.6.3. Event Setup"



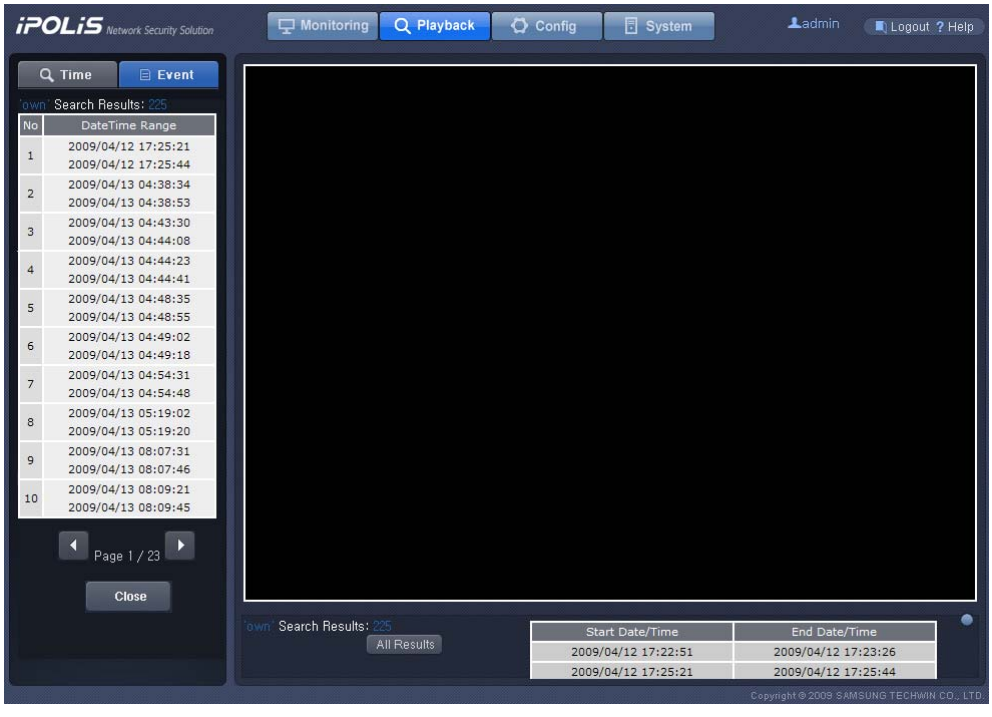
- Input Group own Area: Enables selecting an Event Input Group.
- Channel 5 Area: Enables selecting a channel that contains the record of the selected Event Input Group.
- Date/Time From To Area: Enables selecting the beginning and ending times to search events.
- Button: Displays a calendar, as shown on the next page, enabling you to select the beginning and ending dates and times for searching events. Select a date and time, and then click Apply.



- Search Searches videos with conditions that match a selected event type, channel, date and time, and then displays the first 10 results at the bottom of the screen, as shown in the screenshot below. To play a video, click on a result. To check all the 10 results, move the in the right of the screen upward and downward.



- All Results displays all search results on the left side of the page. 10 Search results are displayed at a time. Clicking on an item automatically plays a video saved in the selected time. and move to the previous or next results page. Close moves to the previous screen.

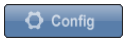


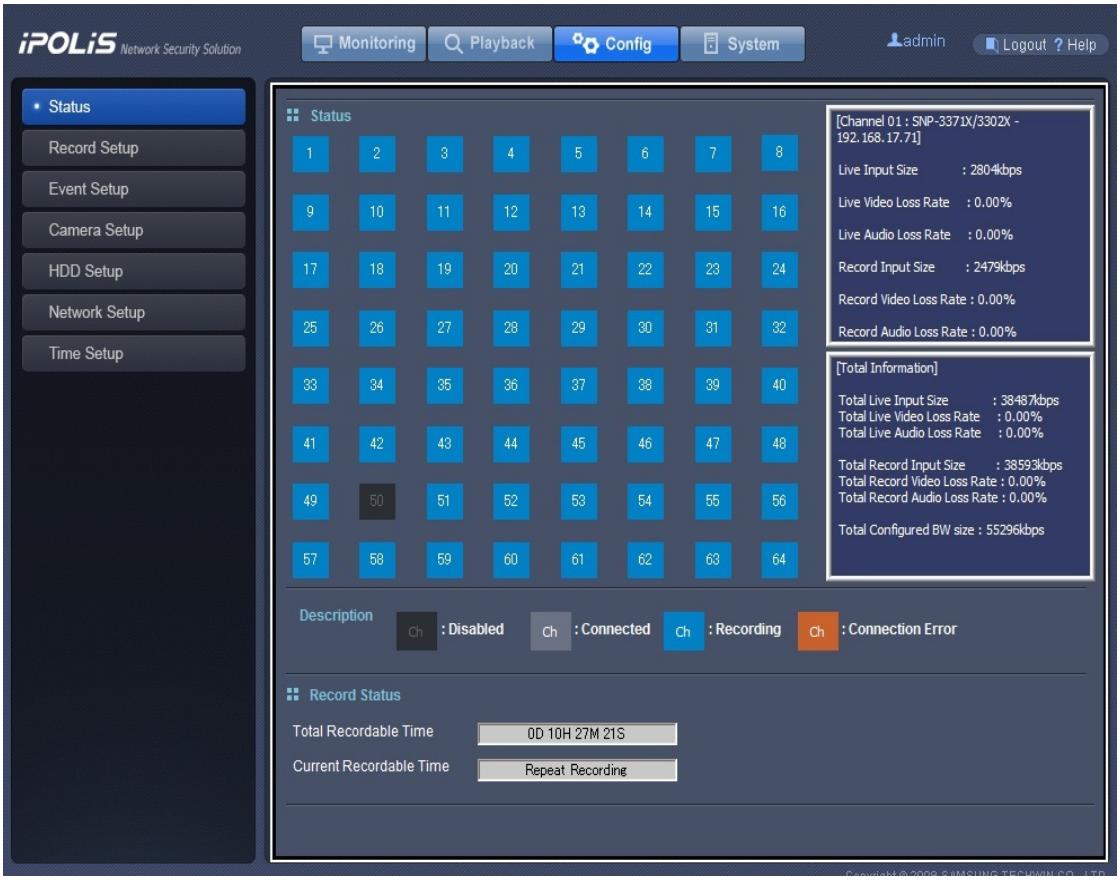
Note

- The maximum searchable period is 7 days.
- If more than 500 event video files are recorded within a selected search period, data saved on the day for which 500 or more accumulated video files are recorded is searched but data saved on the day after is not searched. (For example, if video files are searched from 10th to 15th and 800 accumulated video files are saved by 11th, the program will not search data saved after 11th, and will display search results only up to the 800th file.)
- Events that occurred during Normal Record mode cannot be searched.

- Sound Button: Turns audio on or off for the current video.
- Capture Button: Captures a screenshot of the current screen in JPG format.
- Info Button: Displays the channel name and recorded time of the current video.
- DIT Button: Activates or disables the Deinterlace option for the current video.
- REW and FFW Buttons: Rewind, fast forward, and adjust the play speed of the current video. While a video is being played, the buttons change to 8X, 4X, 2X, 1X, 1X, 2X, 4X, and 8X, indicating the play direction and speed. The adjusted play speeds are 1x, 2x, 4x, and 8x backward and forward. Each time the REW or FFW button is clicked, the play speed changes by one level.
- PLAY Button: Plays a video. While a video is playing, it changes to the (PAUSE) button. Clicking the PAUSE button pauses the current video.
- Stop Button: Stops a video.

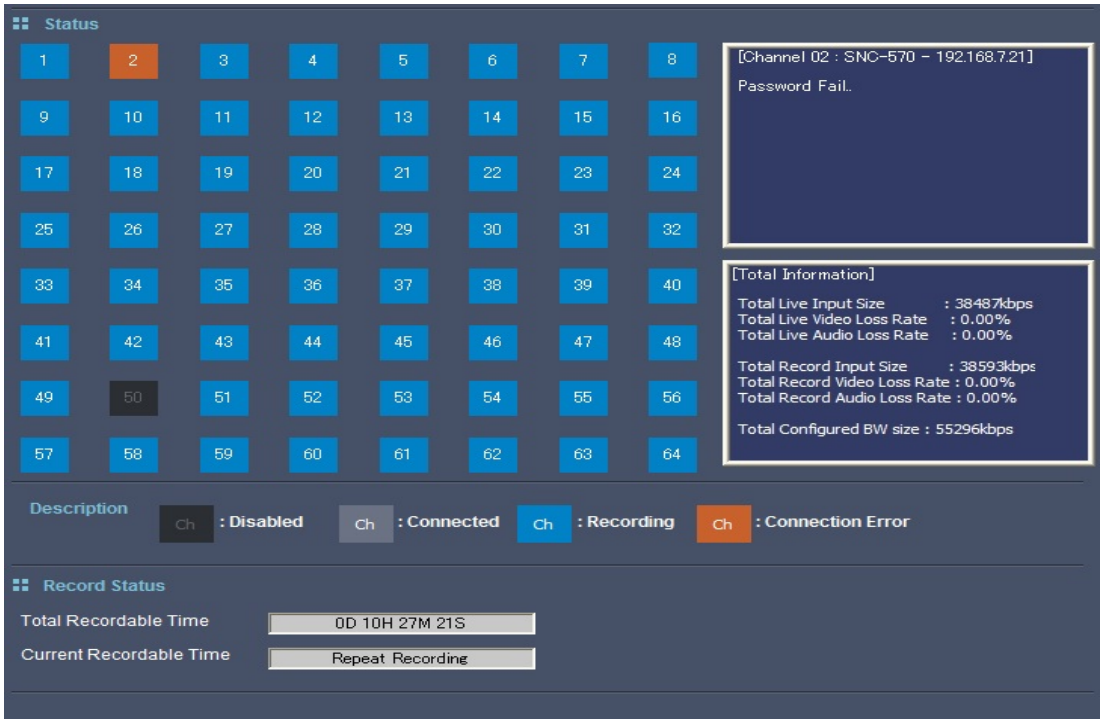
4.6. Config

The following screen appears when  at the top of the screen is clicked. Clicking on a button on the left menu directs you to the corresponding page.



4.6.1. Status

Displays the current status of each channel along with the free storage space of the product at the bottom.



The Status Page lets you check the status of all channels in one screen. Dark gray indicates an unused channel. Light gray indicates a channel that is connected to a camera, but is not in recording mode. Blue indicates a channel that is in recording mode. Orange indicates a channel that is experiencing a connection problem with its camera.

Details will be provided in the right. The commonly displayed items include: the current bit rate for each of Live and Record, Video Loss, and Audio Loss. On the bottom, the specified bandwidth will be added for your reference. In the meantime, the channel information will be displayed in the upper area while the statistics for the entire channels will be listed in the bottom. When selecting a channel that is Connected or Recording, the bitrate as well as video and audio losses for the channel are displayed. For a channel in Connection Error state, it displays the error information.

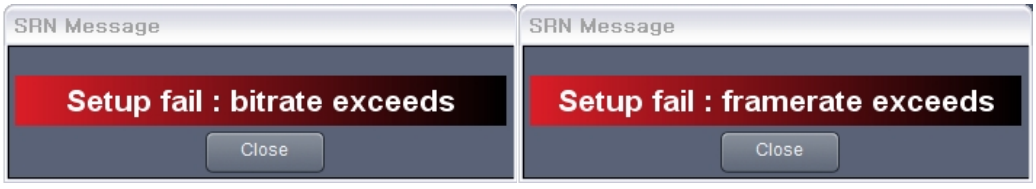
Note

- "Live" indicates a live video feed. "Record" indicates a live video feed that is being recorded and saved in the product's HDD.
- "Record" uses data from the last 8 seconds to calculate statistics; there may be a slight discrepancy between the bitrates of "Live" and "Record," even when all the frames coming from the camera are being stored normally.

Record Status displays remaining recordable hours under the current recording settings. Total Recordable Time displays a total recordable time of all connected data storage units. Current Recordable Time displays remaining recordable hours based on the current free storage space of the product. If the HDD becomes full during the Repeat Recording mode, the Current Recordable Time menu displays Repeat Recording. Please Refer to "

Caution

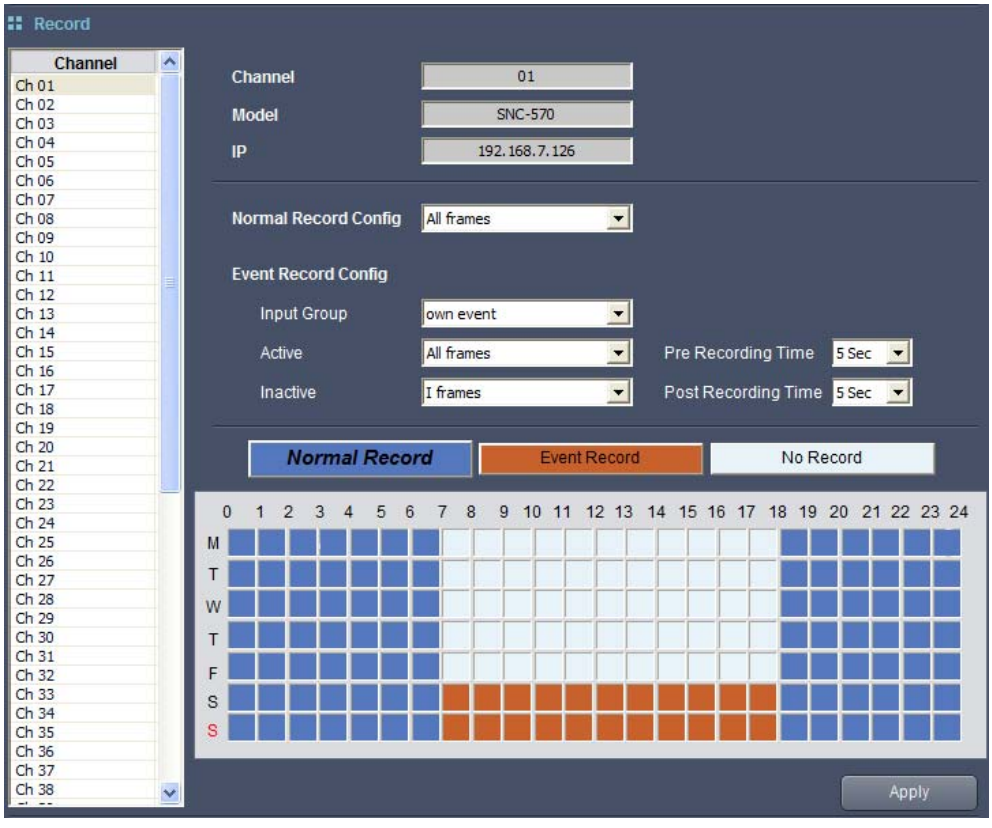
- **If you see a message of "Setup fail : bitrate exceeds" or "Setup fail : framerate exceeds" (see the figure below), you cannot add a camera any more.**



4.6.5. HDD Setup"

4.6.2. Record Setup

Select a channel on the left of the screen to choose its video recording method.



Select a channel on the left side of the screen to choose its video recording method. To choose time and a method of saving a video on each day, select one of Normal Record, Event Record, or No Record, and then drag the cursor in the bottom timetable to make a selection. Different colored blocks of hours and days indicate different record modes. Upon selecting, the name of the record mode buttons are Bolded and Italicized to ***Normal Record***, ***Event Record***, and ***No Record***.

Normal Record mode records video always at a set frame rate while Event Record changes its frame rate for events. You can select an Event Input Group or Own Event to activate Event Record mode. When selecting an Input Group, Event Record is activated for events corresponding to the Input Group. When selecting Own Event, Event Record is activated for all events occurring in the selected channel. For Event Record, "Pre Recording Time" defines the amount of time before the Event, and "Post Recording Time" defines the amount of time that elapses after the Event, to employ a special frame rate for storing video. You can have up to 5 seconds of Pre Recording Time, and up to 60 seconds of Post Recording Time. You can search videos recorded by Event Record in the Playback screen. For instructions on setting up events and Input Group, please refer to "4.6.3. Event Setup"

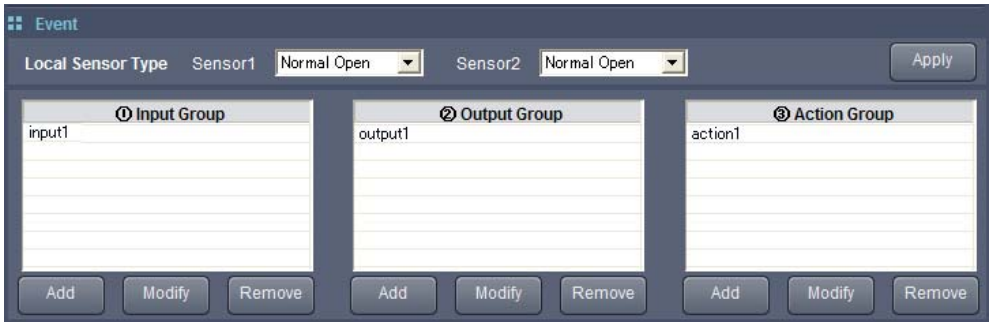
You can select different frame rates for each recording mode: Normal Record, Event Record – Active (when an event occurs), Event Record – Inactive (while no event is detected.) For Normal Record and Event Record – Active, All frames, I frames, and 2 I frames are available. For Event Record – Inactive, All frames, I frames, 2 I frames, and No Record are available. Choose "All frames" to store all video feeds from the camera while "I frame" stores only the 1 frame of the video feed per 1second. Choosing "2 I frames" stores only the I frame of the video feed per 2 seconds. No Record does not record any video.

Note

New settings are applied only if you click Apply.

4.6.3. Event Setup

From this screen, you can configure Event-related settings.

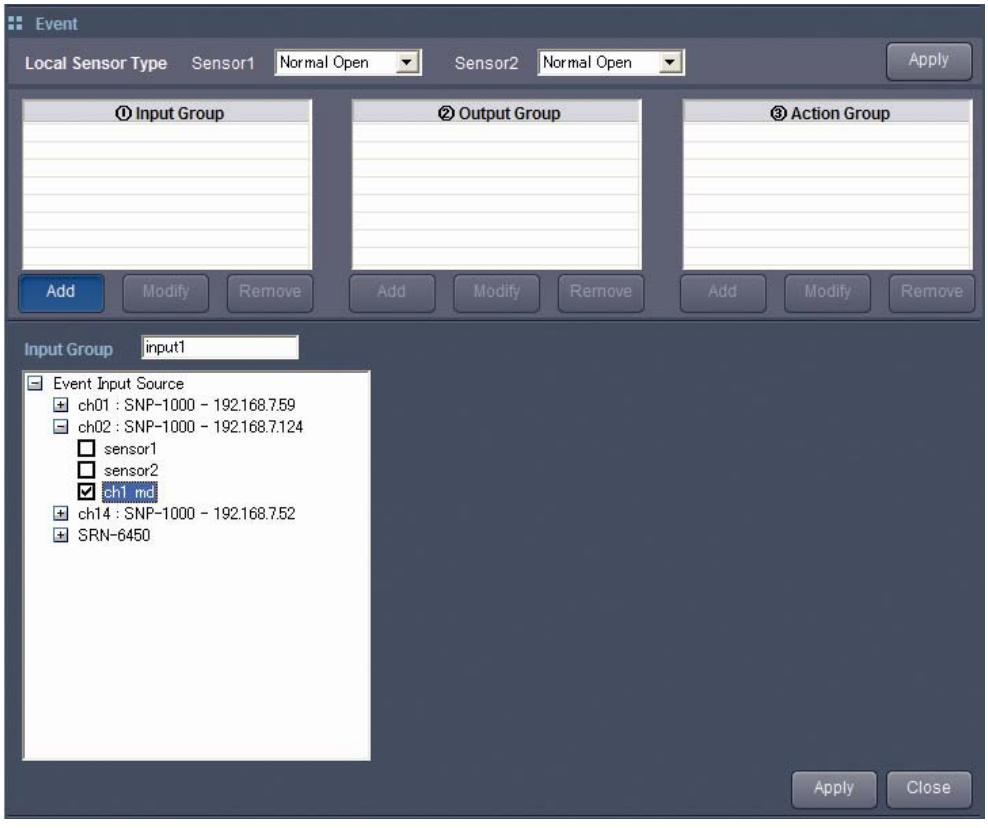


❖ Local Sensor Type

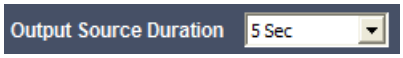
Local Sensor Type let you select the operation type for Sensor 1 and 2 between Normal Open and Normal Close. Normal Open activates a sensor input when the contact type is short or the dynamic type is at the Low level. Normal Close activates a sensor input when the contact type is open or the active type is high impedance (open collector).For more information about sensors, please refer to the user's manual of each sensor.

❖ Event Input/Output Group

Event Input Group defines a group of events that may occur in cameras and the Network Video Recorder; Event Output Group defines a group of responses that cameras and the Recorder may take for a particular event. Click Add under either Event Input Group or Event Output Group to see the following screen. This screen also appears when selecting a group and then clicking Modify, or simply double clicking on a group.



Enter a new group name in the Input Group or Output Group pane. The list below the panes displays the channel camera names along with the product. To display available Input Event or Output Event sources, double click on a camera or the product. For Input Group, available options include Sensor and MD (Motion Detector), and Relay, E-mail, and Beep for Output Group. (For more information about input and output signals for cameras, please refer to the user manual of each camera.) Check on all options to include them in the new group, and then click Apply to create the group via the Add button, or apply new settings via the Modify button. Close closes the Group Settings window without creating a group or saving new settings.

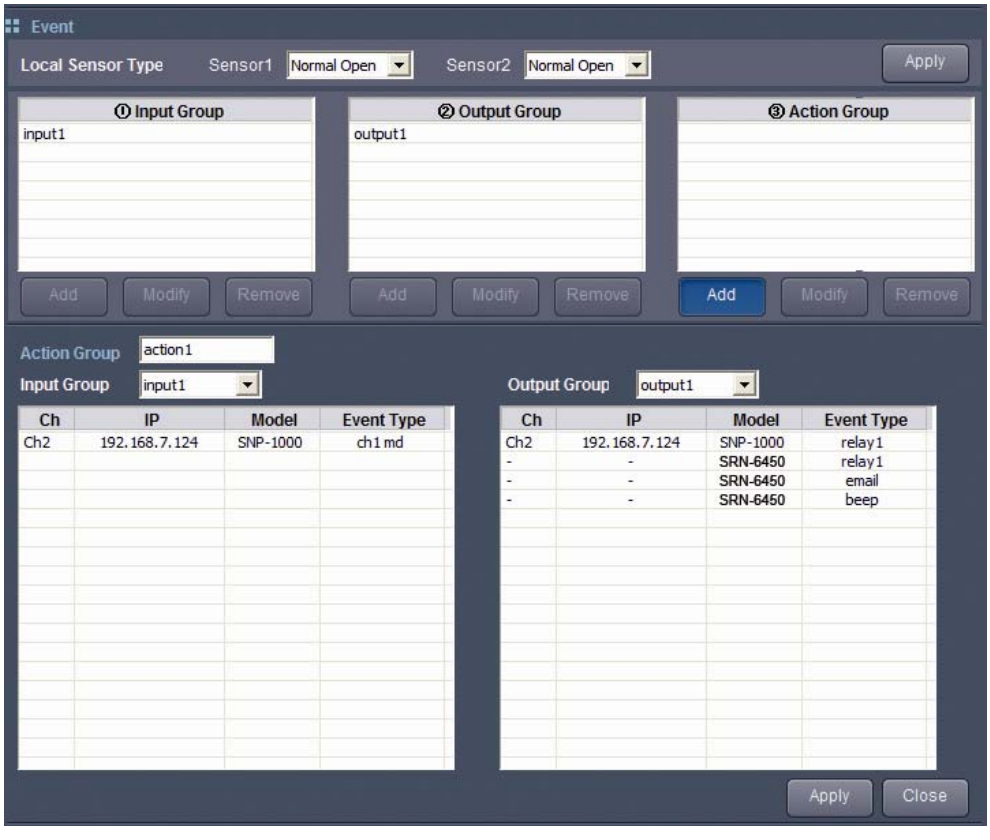


For Output Group, Output Source Duration is available to add and modify. Beep and Relay actions duration can be set from '1second' to 'always' (to make actions keep operating once an event occurs).

To delete a group, select a group in a group list, and then click Remove.

❖ Event Action Group

Event Action Group links Event Input Group and Event Output Group into one functional unit, so that when an Event included in the Event Input Group occurs, all the responses included in the Event Output Group are included. Click Add under Event Action Group list, and you'll be directed to the screen shown below. This screen also appears when selecting a group and then clicking Modify, or simply double clicking on a group.



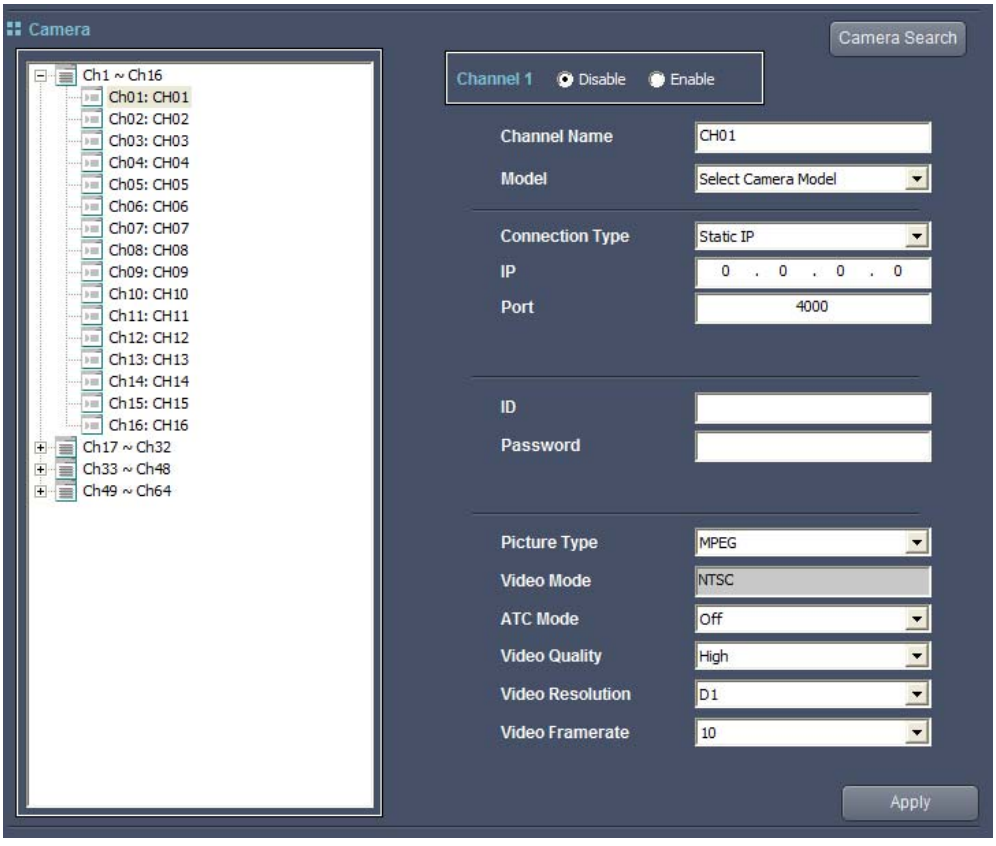
First, enter a new group name in Group Name. Then select Event Input and Output Groups in the Input Group and Output Group list. Events registered for the selected Input and Output Groups are at the bottom of the screen. Click Apply to create the group. Close closes the Group Settings window without creating the group.

To delete a group, select a group in the Group list, and then click Remove.

Note

Deleting an Input or Output Group deletes an Action Group corresponding to the Input or Output Group.

4.6.4. Camera Setup



Select a channel in the left list; you can view or modify its camera settings. Active channels are displayed with while inactive ones are with .

- : Selecting Enable activates a channel.
- **Channel Name**: Name a channel. Channel Name is displayed on the top of the Monitoring and Playback screens.
- **Model**: Select the model number for a camera. In addition to network cameras, you can choose network video servers such as the SNS-100, SNS-400, etc.
- **Connection Type**: Select the connection type for a camera between Static IP and DDNS.
  - To use Static IP, enter the IP address and connection port for a camera.
  - To use DDNS, enter the DDNS server address and user ID.
- **ID, Password**: Enter the login ID and password for a camera.
- **Picture Type**: Select an image save method between MPEG and JPEG formats.

- **Video Quality, Video Resolution, Video Framerate**: Select a video quality, resolution, and video frame rate. Selecting higher settings for these will give you higher quality video, at the expense of network bandwidth and disk storage capacity.

Note

- The product's maximum frame rate is limited and varies depending on the resolution and RAID settings. (Refer to the product specifications page.)
- The frame rate of a channel with its Picture Type set to JPEG is double that of a channel with its Picture Type is set to MPEG when calculating total frame rate.
- The system is a single-stream based device that proceeds with recording and live playback in the camera mode specified in the Camera Setup page.

Note

- Video Mode shows the selected camera's color encoding system, NTSC or PAL, and cannot be modified.
- The available resolutions differ depending on the network camera. For a resolution of higher than 720p, no separation between NTSC and PAL exists, and the maximum frame rate will be changed accordingly.

	NTSC	PAL
QCIF	176 x120	176 x144
CIF	352 x240	352 x288
2CIF	704 x240	704 x288
4CIF	704 x480	704 x576
D1	720x480	720 x576
720p	1280x720	
960p	1280x960	
FullHD	1920x1080	
QVGA	320x240	
VGA	640x480	
SVGA	800x600	
XGA	1024 x768	
SXGA	1280 x1024	
UXGA	1600 x1200	
QXGA	2048 x1536	

Caution

- **If you change the camera settings while in record mode, the image recorded at the moment of the change may not be played properly.**

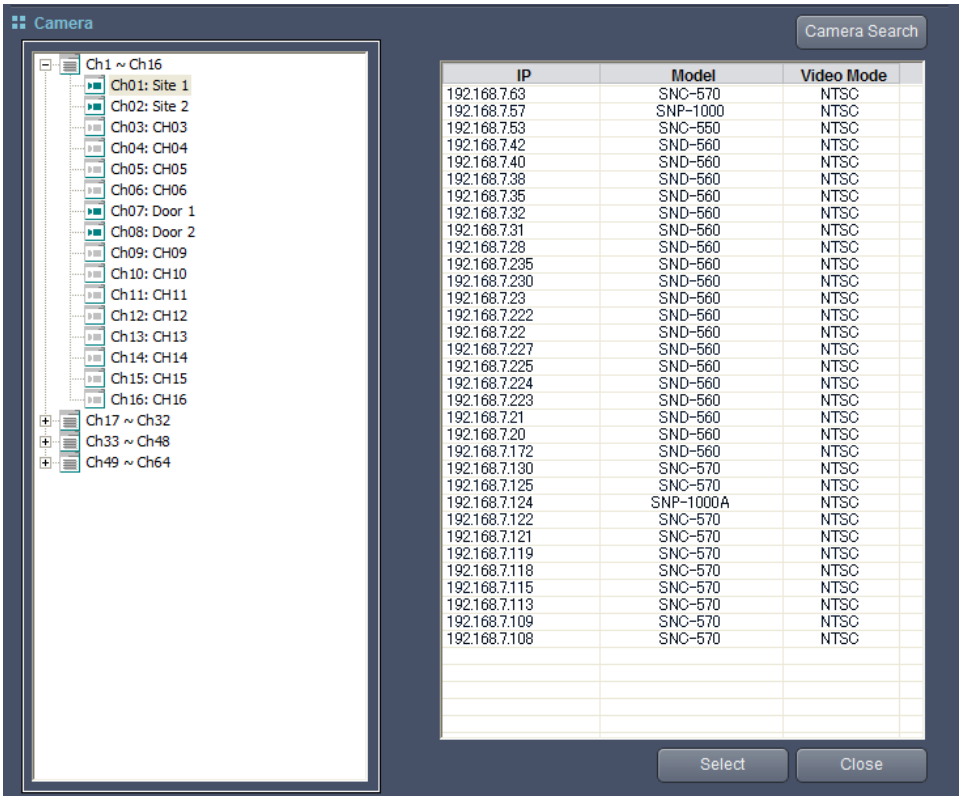
Note

The NVR can be used in connection with Samsung Techwin network products as well as with AXIS products. AXIS cameras have, however, limited compatibility with this product, as described below.

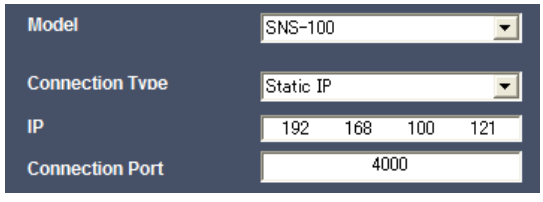
- Only AXIS cameras that support both VAPIX and MPEG4 output are compatible with this product.
- Audio Encoding: G711 μ-law
- Camera Search: Cannot search.
- Resolution: In Camera Setup page, one of D1, Half D1, or CIF can be selected as a AXIS resolution. But certain AXIS camera models do not support D1, Half D1, and CIF resolutions. In this case, please use the following chart to determine Video Mode and Video Resolution. For instance, if you want to use CIF video resolution for an AXIS camera, check if 352x240, 320x240, or 352x288 is listed under the resolution in the chart. If one of the sizes is available, that means that you can use the resolution. If a selected resolution is not applicable, the product searches for a supported resolution in the order of D1, Half D1, and CIF, and then changes the resolution automatically. AXIS cameras that do not support any of the listed resolutions below cannot be used in connection with the NVR.

	NTSC	PAL
D1	704x480, 4CIF, 640x480	704x576
Half D1	704x240, 2CIF	704x288
CIF	352x240, 320x240	352x288

- Camera Search automatically searches the current network to find cameras to connect.



Select a camera on the list and then double-click on it, or simply click Select. The Model, Connection Type, IP, and Connection Port options of the camera will be automatically set up depending on the settings of the camera.



Note

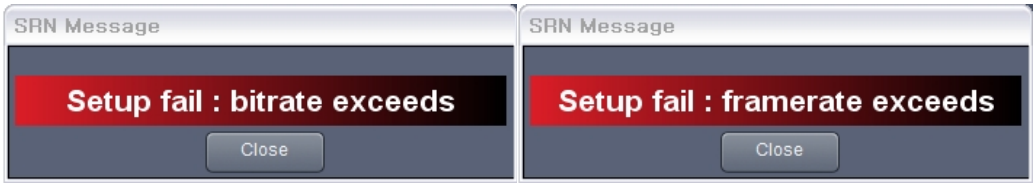
Camera Search does not always find all the cameras on the network; you may have to click Camera Search more than once to find all the camera(s) you want.

Note

New settings are applied only if you click Apply.

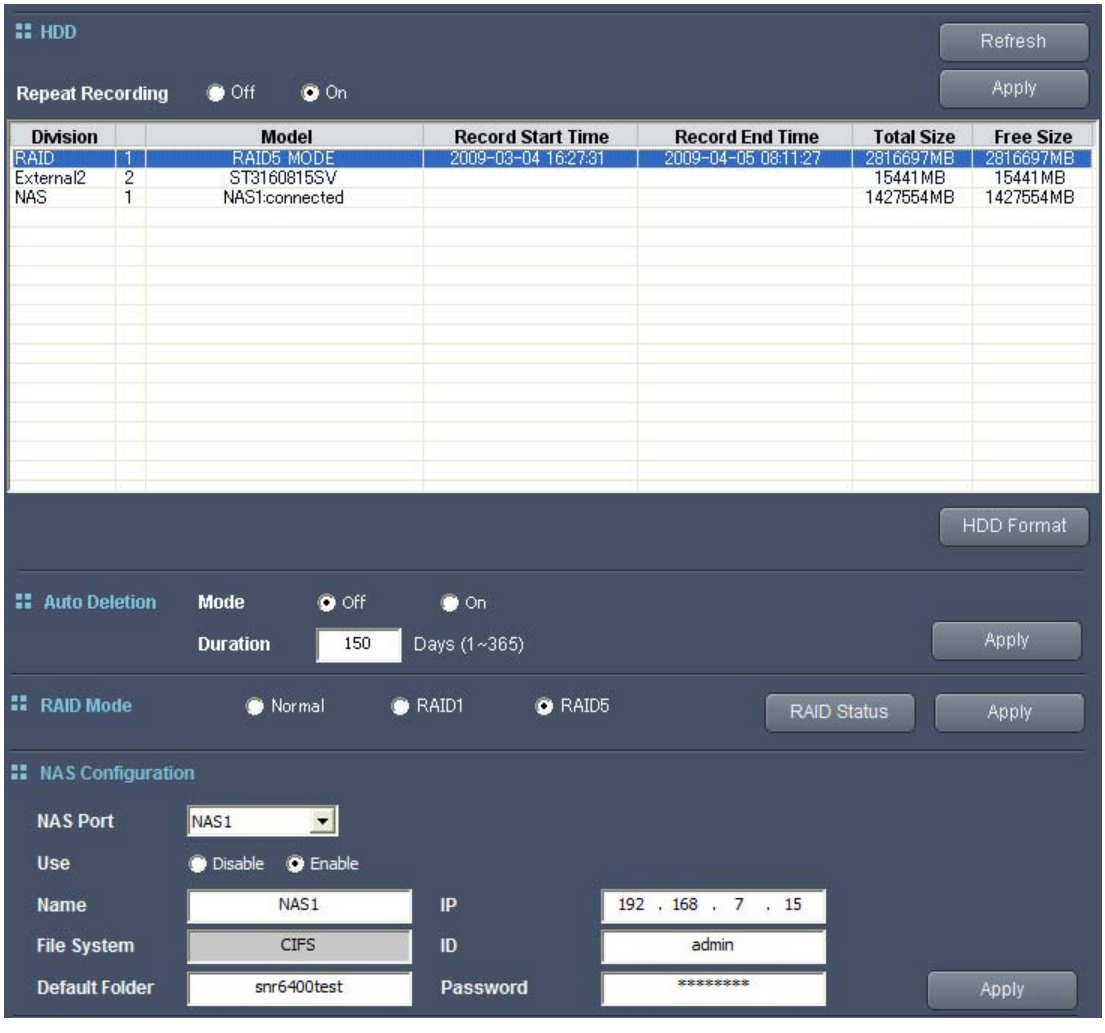
Caution

- **If you see a message of "Setup fail : bitrate exceeds" or "Setup fail : framerate exceeds" (see the figure below), you cannot add a camera any more.**



4.6.5. HDD Setup

From this page, you can configure the storage devices connected to the system.



❖ **HDD**

On top of the screen the types and statuses of internal HDDs, external HDDs, and/or NAS devices currently connected to the system are listed. Internal and external HDDs give their model, record times, "total size" (total capacity) and "free size" (remaining capacity); NAS devices give their user-assigned names and current connection statuses. RAID-configured internal HDDs are displayed as "RAID" instead of "Internal" and their model names are replaced by the raid mode: "RAID1 MODE" or "RAID5 MODE." While an HDD is being formatted, an HDD is in the disk checking process, and a new RAID mode is being configured; "Formatting," "Testing," and "Building" are displayed instead of the device model names.

Set Repeat Recording to On, and the system will automatically erase the oldest recorded video to make room for new video when no free space remains on the HDD.

To renew the list of connected HDDs, click Refresh.

When you select an HDD, HDD Format appears; click it to format the selected HDD. While formatting is in progress, the front LCD displays the following message.

```
Formatting HDD
  is in Progress...
```

```
HDD Format
              [DONE]
```

While an HDD is being formatted, an HDD is in the disk checking process, or a new RAID mode is being configured, the product cannot be used to format another new HDD; the HDD Format button is not displayed even if you select an HDD in the list.

Selecting a NAS and then clicking HDD Format does not format the entire NAS; it only deletes the entire video data of a selected NAS.

Note

New Repeated Recording setting is applied only if you click Apply at the top of the screen.

❖ Auto Deletion

In In Auto Deletion, you can select and specify necessary items of Auto Deletion as well as the storage period. Set the Mode item to On and specify the storage period in the Duration item. Then, press Apply in the right side. This will automatically delete older data in the HDD than the specified period. The storage period can be specified by the day, ranging from at least one day to a max of 365 days.

Note

If you activate Auto Deletion for the first time, HDD data older than specified will be deleted automatically and it may take a while until the Auto Deletion mode gets started.

❖ RAID Mode

In the RAID Mode menu, you can change the system RAID settings. To change the settings, select Normal, RAID1, or RAID5, and then click on the right. Normal is the non-RAID mode. Upon applying new RAID settings, the system automatically reboots itself; you will be disconnected from Web Viewer. The system requires approximately 2 minutes to reboot and establish a network connection.

While the new RAID settings are being applied, the front LCD displays the following messages according to the progress.

```
Preparing RAID1
  is in Progress...
```

```
Rebooting system
  is in Progress...
```

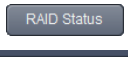
```
Build RAID1: 48.8%
Finish: 37.6min
```

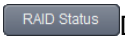
```
RAID1 Setup
              [DONE]
```

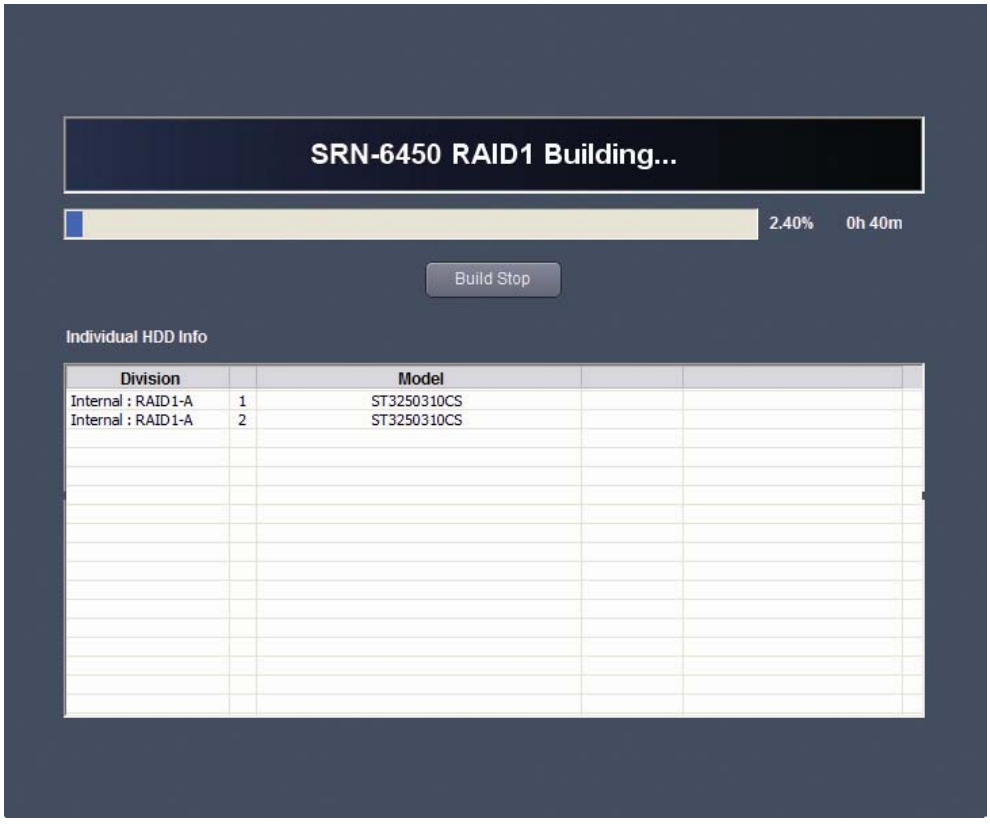
```
Unbuilding RAID
  is in Progress...
```

```
Rebooting system
  is in Progress...
```

```
Unbuilding RAID
              [DONE]
```

When the system is in a RAID mode,  appears on the right.

 Displays the current RAID status of the system along with the information of RAID-configured HDDs.



While building a RAID mode, Build Stop appears in the RAID Status screen. Clicking the button aborts the RAID building process.

Note

- RAID (Redundant Array of Independent Disks) helps you keep data safe in case the system HDD is damaged.
- Selecting RAID1 mode configures HDD1 and HDD2 as one array, and HDD3 and HDD4 as the other array. RAID1 uses 2 physical HDDs as 1 functional HDD. For instance, configuring HDD1 and HDD2—while each is equipped with a 500GB HDD—to RAID1 displays the system's functional HDD as one 500GB RAID. In RAID1 mode, no data is lost even if one of the two HDDs of a RAID array is damaged.
- Selecting RAID5 configures 4 HDDs to 1 RAID array. RAID5 uses 4 physical HDDS as 3 functional HDDs. For instance, configuring HDD1, 2, 3, and 4—while each one of them is equipped with a 500GB HDD—to RAID5 displays the system's functional HDD as one 1.5TB RAID. In RAID5 mode, no data is lost even if one of the four HDD is damaged.
- RAID1 requires at least 2 HDDs to be equipped next to each other—HDD1 and HDD2, or HDD3 and HDD4—while RAID5 requires all 4 HDDs to be equipped.
- To configure a RAID mode, HDDs must be the same size. It is highly

recommended that you use the same brand and model HDDs to configure RAID.

- RAID settings are available only for internal HDDs.

  Building RAID using 4 x 500GB HDDs takes approximately 3 hours for RAID1, and 4 hours for RAID5.

- (An abnormal system shutdown due to such as disconnected power during RAID configuration will cost you a lot of time to complete the RAID configuration. So it is recommended to use UPS for power supply.)

Caution

- **Changing the RAID settings to a new mode automatically deletes all data in the HDDs of the product, and new video files are not saved until the new RAID mode is completely configured.**
- **When the product is turned off abnormally, i.e. by pulling the AC power adapter out, and then turned on, the product may reconfigure its RAID settings automatically to ensure the integrity of saved data. While a new RAID mode is being configured, existing data is not lost, but new data will not be saved either.**
- **If more than two RAID configured HDDs are broken or removed from the product, the RAID configuration will malfunction, causing data loss.**
- **During use of the RAID, you should never perform "Remove HDD" from the LCD menu whatsoever.**
- **If any one HDD of the pair fails during RAID operation, it is necessary to replace the defective HDD as soon as possible in order to restore the system stability.**

❖ NAS

Up to four NAS devices can be connected; each NAS is referred to by its NAS Port. Choose a NAS Port to view or change its configuration.

Use lets you determine whether to use the selected NAS Port or not.

Name lets you assign a name to the NAS device. NAS Name displays under the Model category in the HDD list at the top of the screen.

Default Folder lets you specify a folder on NAS to save recorded video.

Enter the IP address, login ID, and password for the NAS in IP, ID, and Password respectively.

Note

- Only the CIFS (Samba) file system is supported for NAS ports.
- NAS name and default folder name can contain a maximum of 32 bytes, i.e. 32 alphanumeric characters.(English)
- A NAS HDD may not appear in the HDD list if it is turned off at the time when the product is turned on for the first time, or the product fails to connect to the HDD for other reasons. In these cases, the product is unable to connect to the NAS HDD automatically even if the problem is resolved. To connect to the NAS HDD, you must change settings to Disable, and then change back to Enable.
- If a connected NAS HDD becomes disconnected from the product, its status in the HDD list changes from "Connected" to "Not Connected." In this case, the product automatically connects to the NAS HDD if the problem is resolved. The status of the HDD then reverts to "Connected".
- The NAS data-saving speed is slower than internal and external HDDs; this may cause video files to be saved improperly.

Note

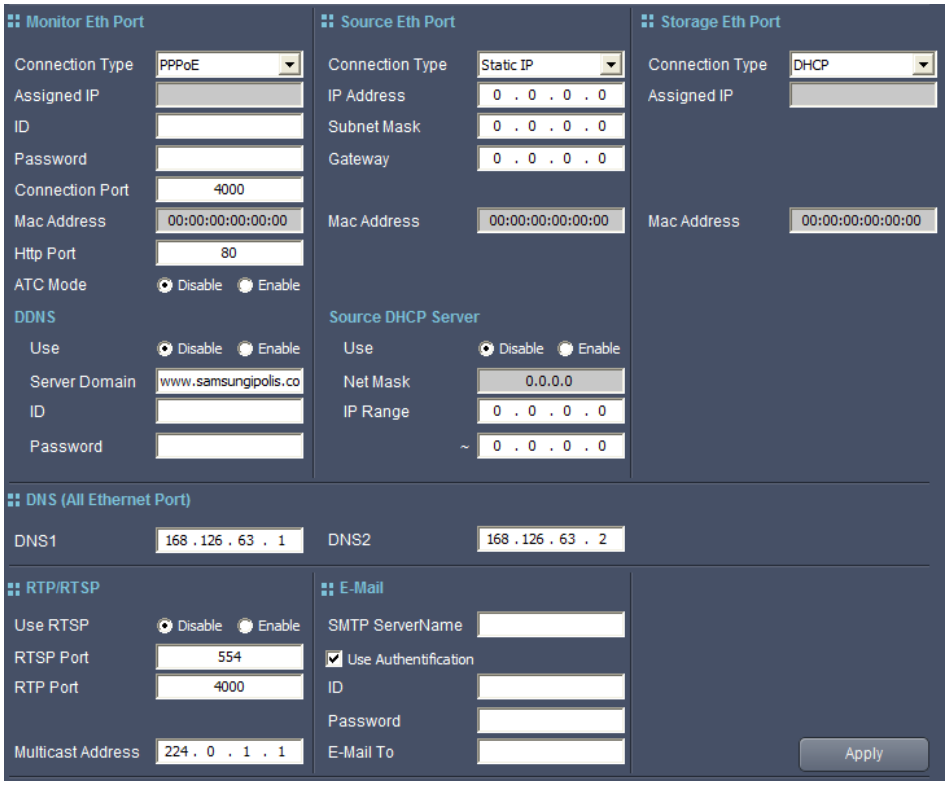
New NAS settings are applied only if you click Apply at the bottom of the screen.

Caution

HDDs MUST not be removed from the system while the system is in operation. To remove HDDs safely, please refer to "5.4. Removing HDDs"

4.6.6. Network Setup

You can configure network settings on this screen.



You can use either PPPoE, Static IP, or DHCP as a connection method for the network ports on the rear panel. If you are not sure which method to use, please ask your network administrator for assistance.

If the product is connected to a PPPoE-type xDSL line, choose PPPoE as the connection method, and enter the access ID and password. Choose the Static IP connection method if you wish to use a static IP, and enter the IP address, subnet mask, and gateway to use. Choose DHCP if a DHCP server is connected to the network you want to connect to; the DHCP server will automatically assign an IP address for you.

Note

- If you are using PPPoE or DHCP, you will find the IP address currently assigned to your product in Assigned IP; you cannot set Assigned IP yourself.
- Changing the network connection method from PPPoE to DHCP or Static IP automatically reboots the system.

The 3 rear network ports (Refer to "2.2. Back Panel" and "3.1.2. Configuring the Network") are the Monitor Ethernet Port, Source Ethernet Port, and Storage Ethernet Port. The Monitor Ethernet Port connects the monitoring computer to the NVR via the web or the setup program.

The Source Ethernet Port connects to the cameras. The Storage Ethernet Port connects to NAS devices.

In relation to Monitor Ethernet Port, you can set the connection port number and http port. The http port is used to connect to the product via Web Viewer. If you changed the default value (80) for HTTP Port, then you must append "(your port number)" to the product's address when connecting to your product with Web Viewer. For example, if your IP address is 192.168.1.110 and HTTP Port is 8080 then http://192.168.1.110:8080 is the product access address for Web Viewer. The connection port is used to connect your computer to the product after the http connection is established.
You can activate or disable ATC in the ATC Mode menu. ATC automatically adjusts the video quality depending on the network's connection status.

Monitor Ethernet Port supports DDNS. By registering your product with a DDNS server, you can connect to the Monitor Ethernet Port from outside by using the DDNS server ID, instead of the product's IP address. If you are using either PPPoE or DHCP to connect to the Monitor Ethernet Port, you'll be assigned a n`ew IP address each time you connect the product to the network. DDNS is especially useful in these circumstances.

Note

Using DDNS

1. Register as a member on iPOLiS home page (www.samsungipolis.com).
2. Log in, and register your NVR with the product registration menu in MY IPOLIS. (Be sure to check for duplicate domains when you register your domain.) You can check if your product has been registered normally on the Product List.
3. Next set DDNS Use to "Enable," enter "www.samsungipolis.com" in Server Domain (without the quotation marks), and finally type in the ID and password you registered with at the iPOLiS home page.
4. You can view the connection status for your registered product(s) on iPOLiS Product List. ("ON" means that the product is connected to DDNS.)
5. Click Connect to Product on the Product List to connect to your product.
6. You also can enter http://www.samsungipolis.com/ID in your Internet browser's address bar to connect to your product. ("ID" is the domain you chose when you registered your product.)

Source Ethernet Port can act as a DHCP server to assign an IP address to a connected camera. Enter two IP addresses—the first and last addresses of an IP range—to limit the range of dynamic IPs. This DHCP Server option is especially useful when you want to open only the NVR to an external network and keep the connected cameras within the internal network.

Note

To use the DHCP Server, the connection method for Source Ethernet Port must be set to Static IP.

Note

- The front network port (Config Ethernet Port) is fixed as IP 192.168.1.100, HTTP Port 80, Connection Port 4000; you cannot change this setting.
- When connecting to the system via the Monitor Ethernet Port instead of the Config Ethernet Port, changing the settings of the Monitor Ethernet Port may terminate the connection. If this happens, you must use the new address to connect to the product.

Caution

If you change the information of DHCP server, it may take a max of 5 minutes to apply the changes to the system.

All ports use the same DNS server; you can have up to two DNS servers. DNS1 is used as the default, and DNS2 is used when DNS1 is unavailable.

Using RTP/RTSP lets you watch the video of the SRN-6450 in the monitoring system without using Web Viewer. To use RTP/RTSP, select "Enable" in the Use RTSP menu, and then change the RTSP and RTP port numbers in the Settings menu. (RTSP is used to control video, and RTP is used to transfer video data.)

The Multicast option is useful when sending video to multiple users simultaneously without consuming too much bandwidth. Multicast is available only within a local network that is configured with a multicast-enabled router; it cannot be used via the Internet.

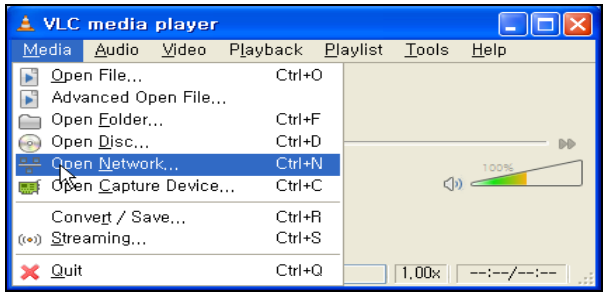
Note

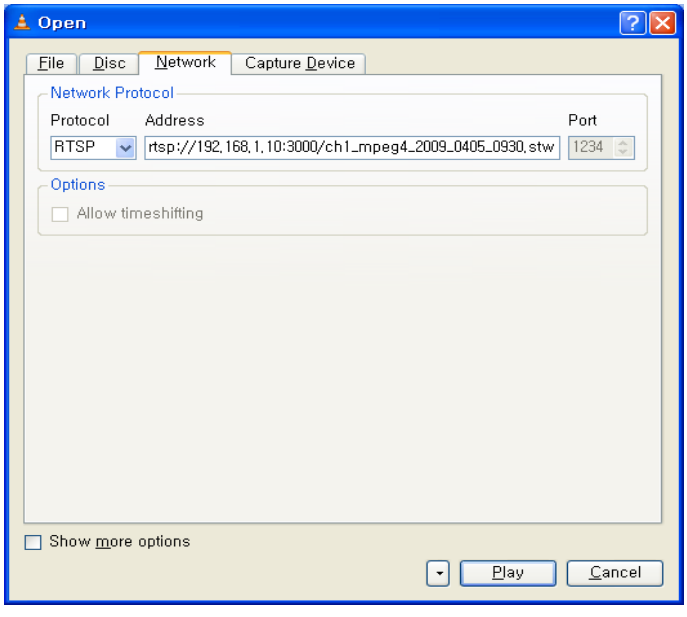
- The RTSP port number cannot be identical to the number of the connection port for the Monitor Ethernet Port.
- Please be advised that you should not change the address unless you are familiar with the RTP multicast protocol. The default Multicast address is 224.0.1.1.
- RTSP monitoring is applied only to a MPEG-compliant camera. (H.264 and JPEG-compliant cameras are not supported)

Note

To connect your computer to the product and watch video via RTP/RTSP, please follow the instructions below. For a video player, we recommend using VLC Media Player(Some players such as Quicktime may not function correctly, as they do not support interlacing.) VLC Media Player's menu configuration may vary depending on its version. (Version 0.9.8a or higher.)

1. In the Network Setup page, select "Enable" in the Use RTSP menu.
   To use Multicast, select "Enable" in the Use Multicast menu.
2. Install and run VLC Media Player in your computer.Under the Media menu, select Open Network or simply use the shortcut key (Ctrl+N) Select RTSP under Protocol.





4. Depending on the type of a video, enter an address as from the examples in

the following chart, and then click Play. When using the default RTSP port number, 554, you may skip entering the port number.)

Video Type		Address
Live	Unicast	rtsp:.//<IP>:<Port>/ch<channel>_mpeg4.stw
	Multicast	rtsp://<IP>:<Port>/mch<channel>_mpeg4.stw
Recorded	Unicast	rtsp://<IP>:<Port>/ch<channel>_mpeg4_ <YYYY>_<MMDD>_<HHMM>.stw
	Multicast	rtsp://<IP>:<Port>/ch<channel>_mpeg4_ <YYYY>_<MMDD>_<HHMM>.stw

i.e.) If the Monitor Ethernet Port IP address is 192.168.1.10 with the RTSP port as 3000, enter rtsp://192.168.1.10:3000/ch1_mpeg4_2009_0405_0930.stw to watch a video from Channel 1 that is recorded on April 5, 2009 at 9:30am

You can register your e-mail address in the Network Setup screen, so your product can notify you with an e-mail when a defined Event occurs. Please Refer to "4.6.3. Event Setup" Enter an outgoing e-mail server address under SMTP Server Name, and an e-mail address under E-Mail To. If your mail server requires authentication for sending e-mail, check User Authentication. Enter your login ID and password for your mail server in ID and Password.

Note

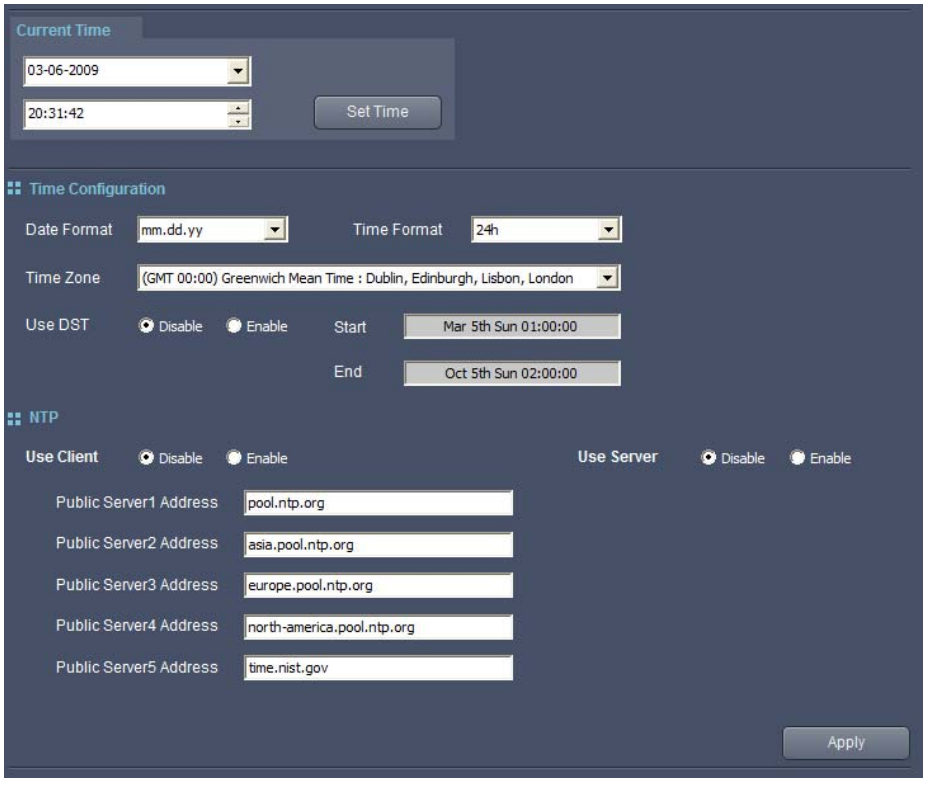
To use the E-Mail option, the Monitor Ethernet Port must be connected to a mail server.

Note

New network settings are applied only if you click Apply.

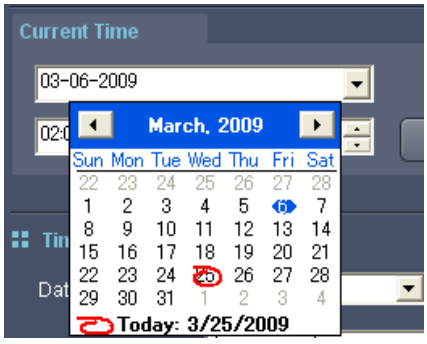
4.6.7. Time Setup

This page deals with the system's time settings.



You set the current time for the product under Current Time. Current date is located above; current time is below. Select an item by clicking on it, and use either the up/down arrow keys or the number keys on your keyboard to change its value. The up/down button can be used instead of the keyboard to change the current time.

To display a calendar, click in the date window. The current date of the product is highlighted in blue. The current date of the product is highlighted in blue. The current date of your computer is circled in red on the calendar, as well as written on the bottom of the calendar. To move to the previous or next month, click or at the top of the calendar. To change the current date, click on a date on the calendar.



Date Format lets you choose either yy.mm.dd, mm.dd.yy, or dd.mm.yy for displaying the current date. yy is year, mm is month, and dd is day. You can choose between 24-hour and 12-hour time formats for displaying the current time in Time Format.

Click Time Zone to select your time zone and city. If your city observes Daylight Saving Time, it will be applied automatically. You can also manually decide whether to use DST or not with DST Use.

You can choose to use an NTP client and NTP server in the NTP menu. NTP (Network Time Protocol) synchronizes the time among the various devices and systems connected to a network; NTP client automatically communicates with registered NTP servers to adjust its time setting. To use an NTP server other than the default one, change Public Server Address.

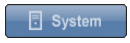
Note

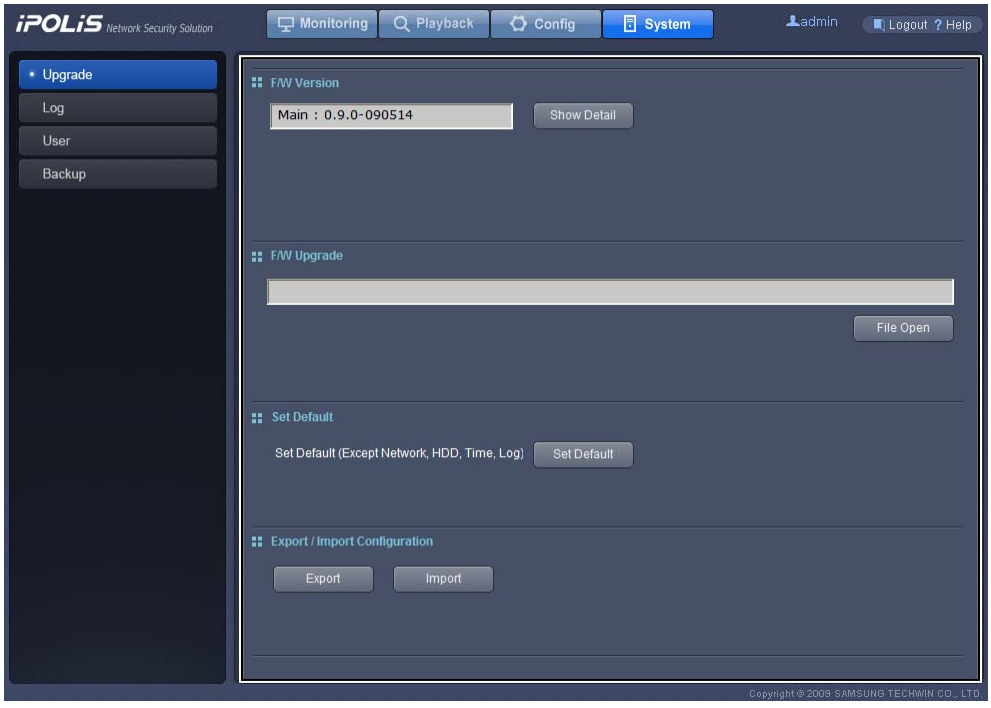
- Changing the GMT settings automatically changes Current Time.
- Synchronizing the time settings of the NTP server and the product may take a while if you change NTP client settings from Disable to Enable. Updating the time settings of the product does not take effect immediately; you must refresh the screen by opening the Time Setup page.
- To use the NTP client option, the NTP public servers and the Monitor Ethernet Port must be within the same network.
- When the NTP Server option is activated, the Source Ethernet Port acts as the NTP server.

Note

New Current Time settings are applied only if you click Set Time. New Time Configuration and NTP settings are applied only if you click Apply.

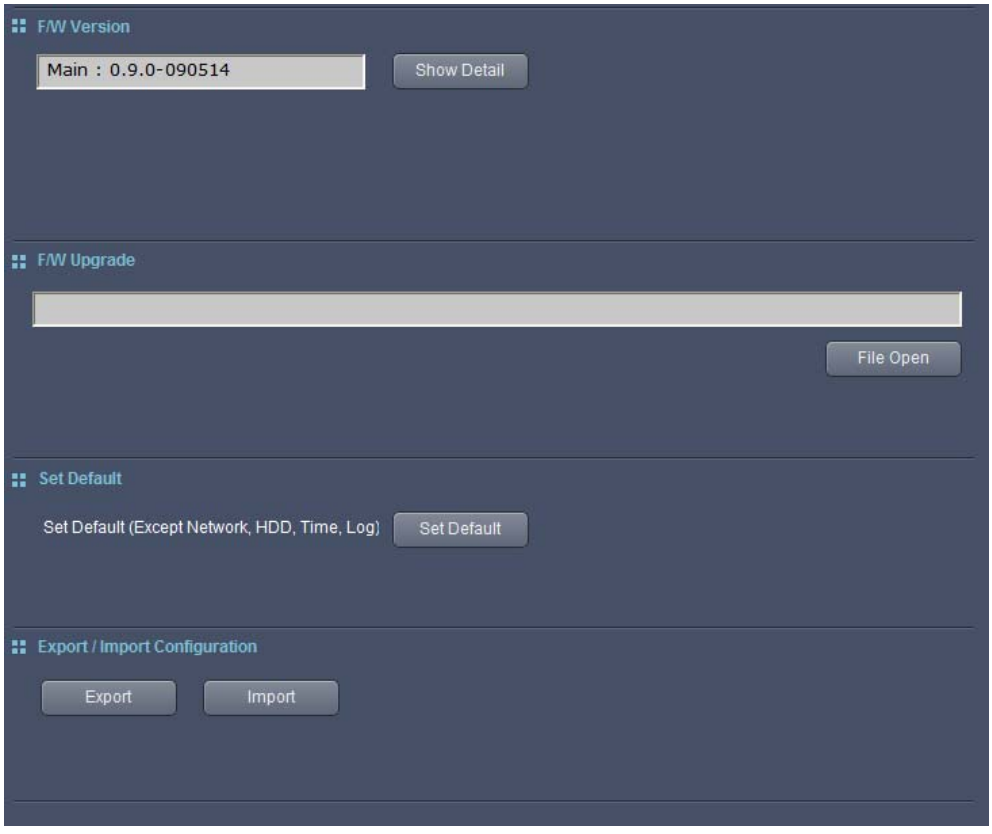
4.7. System

The following page appears when selecting  at the top of the screen. By clicking on one of the buttons on the left of the screen, you can go to the page that corresponds to the function described on that button.



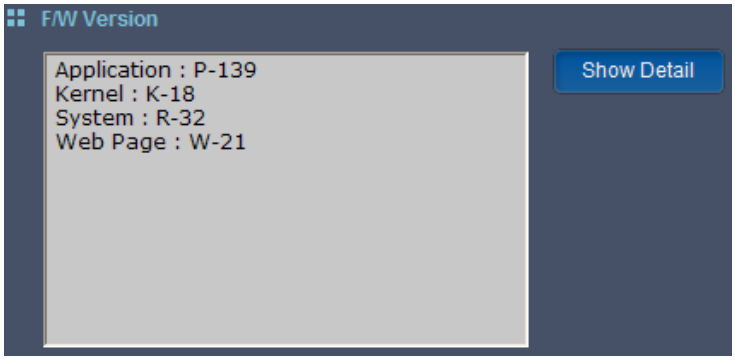
4.7.1. Upgrade

Displays the current firmware version of the system, and enables resetting the settings.



❖ **F/W Version**

At top of the screen is the current firmware version. Click Show Detail for more details as shown in the screenshot below.



❖ **F/W Upgrade**

To upgrade the firmware of the product, click File Open under the F/W Upgrade menu, and then select a firmware file to upgrade.

Selecting a firmware file activates File Send under File Open. Click it to begin upgrading the file.

Note

To download the latest firmware files, please visit Support > Download Center at www.samsungcctv.com.

Upon completing the upgrade progress, the system automatically reboots itself; you will be disconnected from Web Viewer. The system requires approximately 2 minutes to reboot and establish a network connection.

❖ Set Default

Set Default resets the settings of the Record, Event, Camera, and User menu.
For more information about the default settings value, please refer to "2.3. Default Settings"

❖ Import / Export Configuration

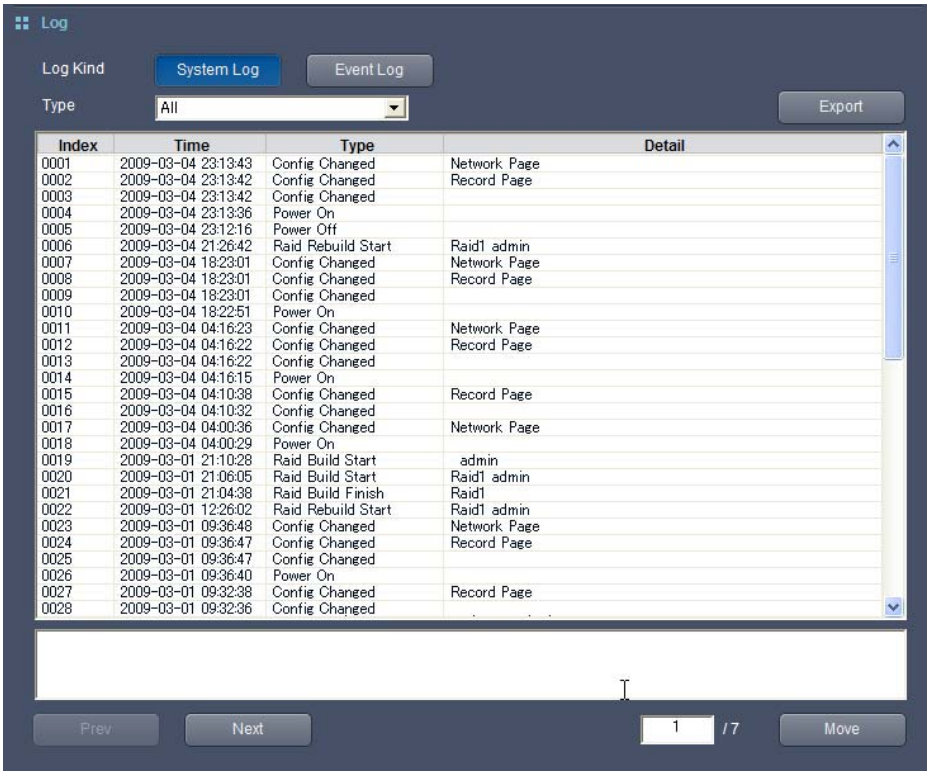
You can save the product's current settings as a file, and then use the file to restore the settings in the future. To save the current settings of the product as a file, click the Export button, and then set the filename and path.
To reboot and restore old settings from a file, click the Import button, and then select a settings file.

Caution

When importing old settings, if the old RAID settings are different than the current, all the internal HDD data will be deleted.

4.7.2. System Log

You can view the System Log on this page.



Log Kind lets you choose which log to view: Event Log, or System Log. System Log displays the product operation logs while Event Log displays the logs of Event inputs sent from connected cameras.

Selecting a log type in the Type option displays only that type of logs.

To see the history of the system settings changes or event group changes, double-click on a log file of the Configuration Changed or Event Group Created type. The details appear as shown in the screenshot below.

Prev and Next moves to the previous or next page. To move directly to a page, enter the page number in the text box, and then click Move.

To save a system log file to your computer, click Export.

Note

Up to 10,000 logs each for System Logs and Event Logs can be saved. If the number of either log exceeds 10,000, the system automatically deletes the oldest logs.

The following chart displays the various log types.

<System Log>

Log Type	Description
Power On	Power was turned on.
Power Off	Power was turned off.
System Rebooting	System re-booted.
Record On	Started to record video.
Record Off	Finished recording video.
HDD Format	An HDD was formatted.
Camera Connection	A camera was connected.
Config Changed	Product configuration was changed.
HDD Full	Capacity limit for HDD was reached/exceeded.
HDD Added	An HDD was added.
HDD Removed	Removing HDD.
RAID Build Start	Started building a RAID array.
RAID Build Finish	Completed building a RAID array.
RAID Unbuild	A RAID array has been removed.
RAID Rebuild Start	RAID was rebuilt.
Event Group Created	An Event Group was created.
Event Group Deleted	An Event Group was deleted.
Key Lock On	Key Lock was locked.
Key Lock Off	Key Lock was unlocked.
HDD Test	HDD disk-checking was performed.
Log File Export	A log was exported.
Firmware Update	Firmware was updated.
Set Default	Set Default was executed via Web Viewer.
Factory Reset	Factory Reset was performed using the front panel button.
RAID Error	A RAID error occurred.
HDD Check Error	An HDD checking error occurred.
HDD I/O Error	An HDD encountered an I/O error.
Upgrade Error	A firmware update error occurred.
Network Status	Connection to network was either lost or re-established.
Camera Connection Error	An error occurred while connecting to a camera.

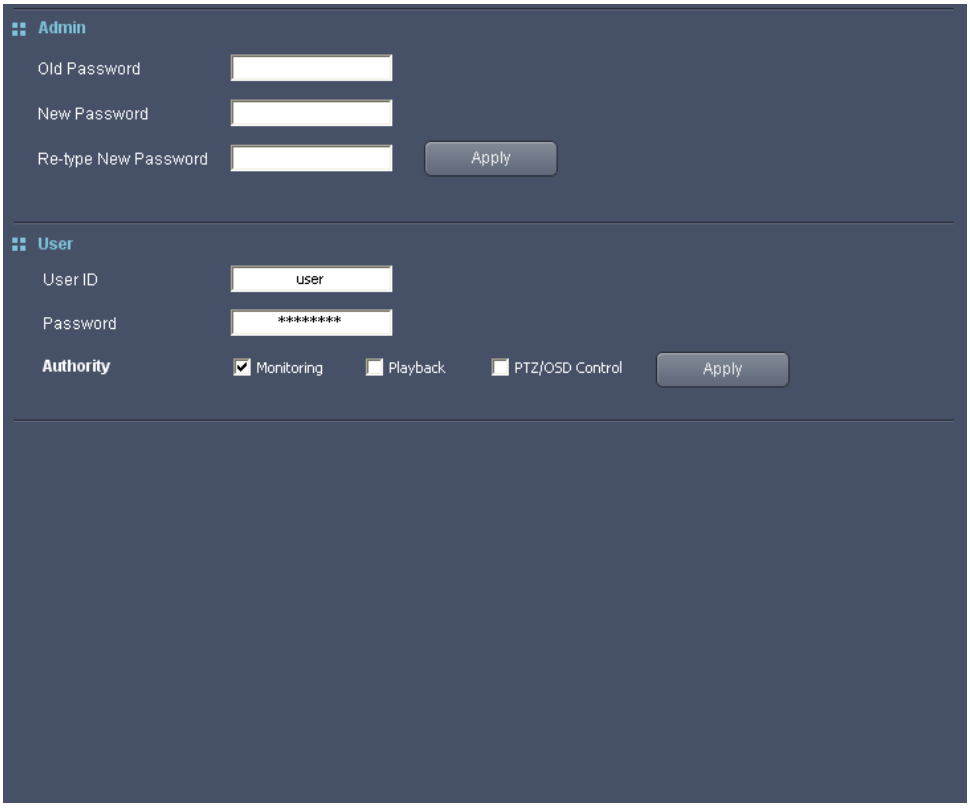
Log Type	Description
Export Config	Product settings were exported to the monitoring computer.
Import Config	Old product settings were imported and restored.
Backup	Back up stored data
Log-in	User login
Log-in Failed	Attempted to login but failed
Log-out	Use logout
DDNS Reg Failed	Failed to register DDNS

<Event Log>

Log Type	Description
Motion Detection	Movement Detected.
Sensor	Sensor Setup.
Relay	Relay Output.
V Loss	Video was lost from a camera.
Monitoring Connection	The Live screen was connected.
Input Group	An Event included in Input Group occurred.
Output Group	An Event included in Output Group occurred.
Intelligence	An Event specified in the Intelligence feature occurred.
Alarm Manually cleared	Use NVR-front button to set off the beep.
Playback Started	Access the Playback page to check the video.

4.7.3. User Setup

On this page, you can set the Admin password, and set the ID, password, and privileges for the User account.



In Admin, you can set a new Admin password. Enter the current password in "Old Password", enter a new password in "New Password", confirm the new password in "Re-type New Password", then click the Apply button. The Admin password is used for logging in to the Admin account, which is the system administrator account with the highest permissions level.

In addition to the Admin account, you can set up one user account with limited permissions. The User account is granted permissions by the Admin under the Authority menu. Monitoring and Playback refer to the menus used when accessing the product via Web Viewer; PTZ/OSD Control refers to the connected cameras' PTZ and OSD functions.

(Refer to "4.4.3. PTZ Control" and “4.4.4. OSD Control"

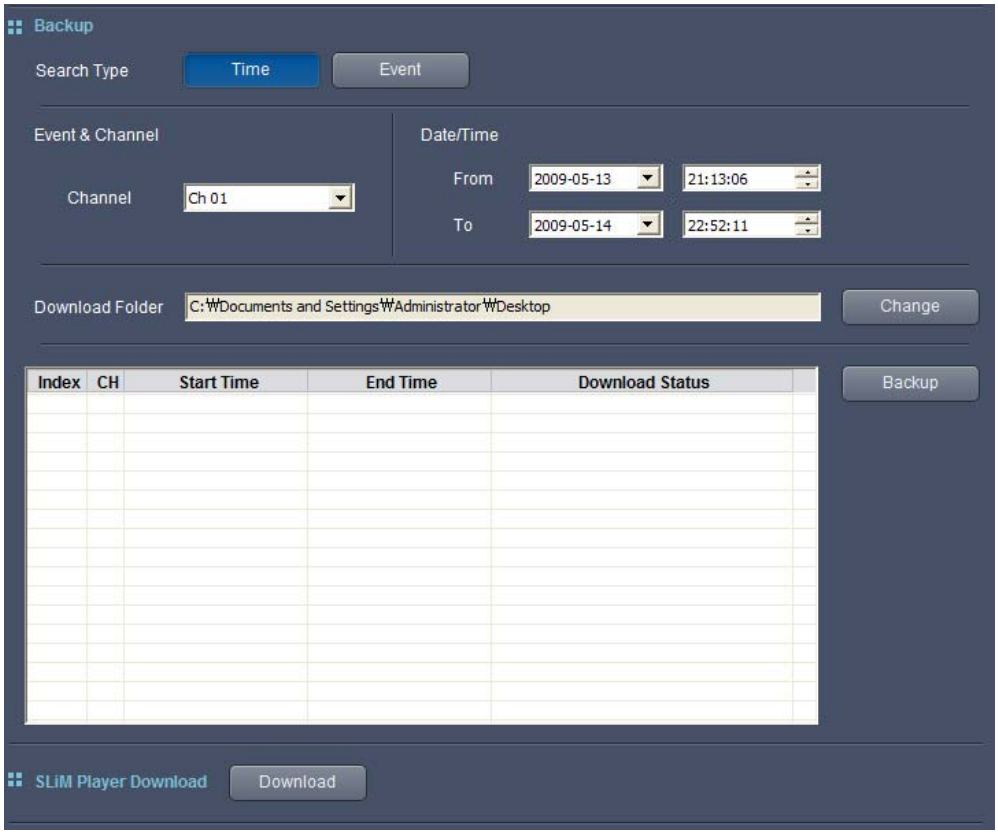
If you wish to change the User account's ID, password, or privileges, you can do so by entering the new ID in User ID, entering the new password in Password, and checking the permissions to grant to the User account. Click Apply to enable the changes.

Note

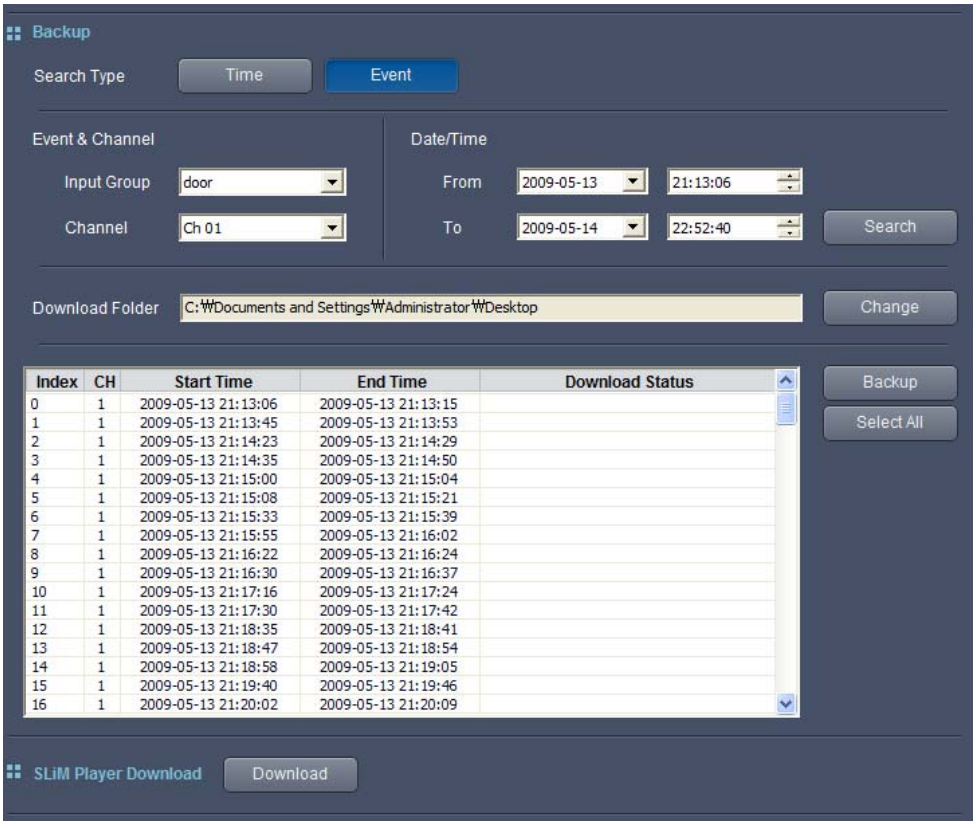
New settings are applied only if you click Apply.

4.7.4. Backup

Backup video files from the product to a computer.



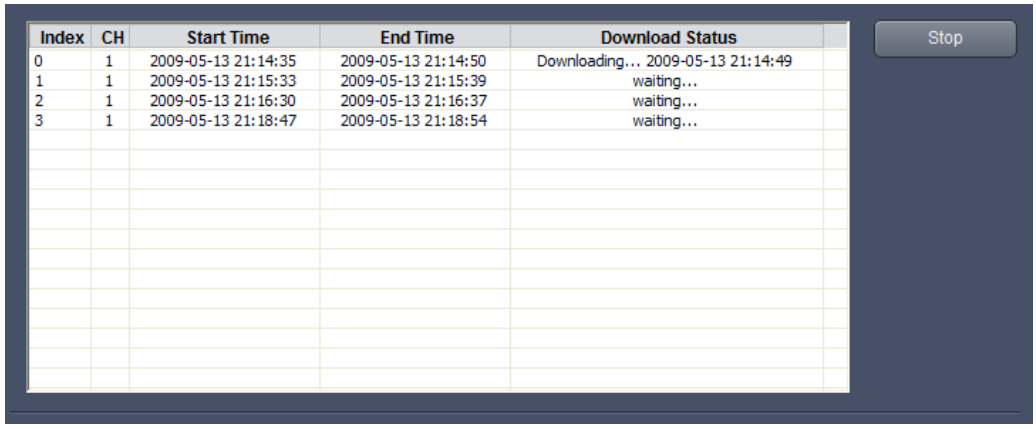
To select a recorded period for backup video files, click the Time button.
Selecting a channel in the Channel dropdown menu displays the channel's recorded period in the From and To panes under the Date/Time menu. Select the beginning and ending time of the backup video files in the From and To panes, and then click the Backup button to start backing up the video files.



To back up specific event video files, use the Event button and search events. Selecting an Event Input Group in the Input Group pane displays a list of channels that contain the selected event video files. Select a channel, select desired times in the From and To panes, and then click the Search button to display a list of the selected event video files that are saved within the selected period. Select backup video files in the list, and then click the Backup button to start backing up the files. To select multiple files, use Ctrl + click or Shift + click. Clicking the Select All button selects all search results.

Note

- The maximum searchable period is 7 days.
- If more than 500 event video files are recorded within a selected search period, data saved after a day for which 500 or more accumulated video files are recorded is not searched. (For example, if video files are searched from 10th to 15th and 800 accumulated video files are saved by 11th, the program will not search data saved after 11th, and will display search results only up to the 800th file.)
- Events that occurred during Normal Record mode cannot be searched.
- Do not click a mouse button or press any key during the backup process. If the cursor position on the window is changed by your selecting other item or moving to other tab, backup will not be performed properly. Backup will be stopped if you enter a different item during the process.



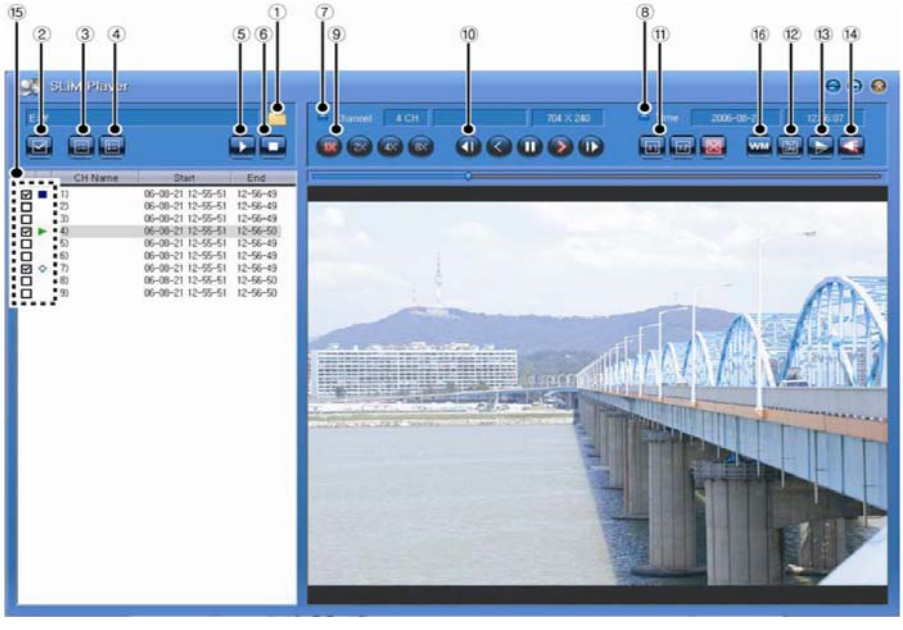
While a backup task is in progress, the Stop button is displayed. To abort the backup process, click the Stop button. (Video files that are downloaded prior to aborting the backup will be saved in the backup directory.)

To change the download folder, click the Change button.
Backing up video files automatically creates a sub folder under the designated download folder. The sub folder is named after the product IP address, e.g., SRN-6450_Backup_192.168.1.100, and contains the backup video files.

Backup video files are playable with SLiM Player. To download SLiM Player, click the Download button at the bottom of the page.

Note

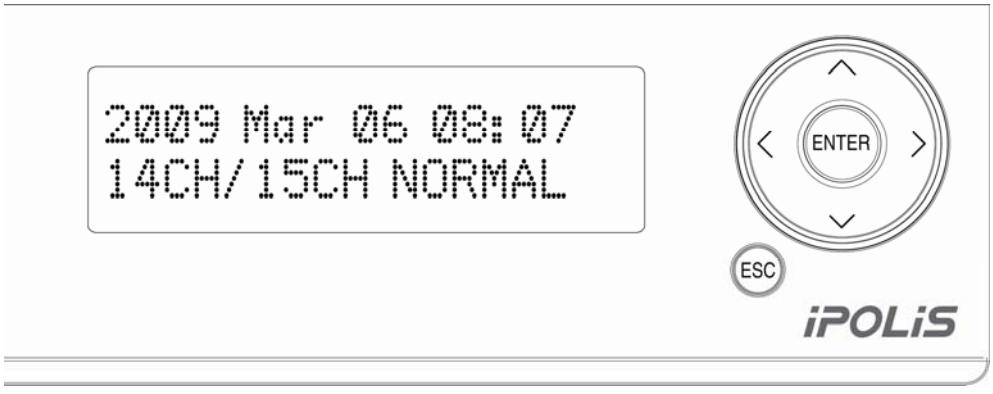
The buttons and functions of SLiM Player are as listed below.



Button	Name	Function
1	Select Folder	Use this button to open a folder that contains backup video files. Available video files are listed in the order of time or channels.
2	Select/Deselect All	Select or deselect all files.
3	Select File	Select one or more files.
4	Deselect File	Deselect one or more files.
5	Play	Play selected files one by one.
6	Stop	Stop playing, and deselect files on the play list.
7	Channel Info	Display information of saved channels.
8	Time Info	Display the running time of a video file that is being played.
9	Play Speed	Adjust the play speed of the player: 1x, 2x, 4x, and 8x.
10	Play Options	Play options: Skip back a frame Play backward Pause Play forward Skip forward a frame
11	ScreenSize	Adjust the screen size of the player. - 1x/2x/Full Screen - 704x240 and 704x288 videos can be enlarged by 2x without degrading image quality.
12	Screenshot	Save the current screen as a JPEG file.
13	Rotate 180°	Rotate the current screen by 180°.
14	Audio	Turns audio on or off.
15	Play List	◇ : Pending ▶ : Play forward ◀ : Play backward ❚❚ : Pause ■ : Stop
16	Watermark Check	Activate or disable the Watermark Check option.

Chapter 5. LCD Setup

The front panel LCD displays the current time and recording status by default (shown below.)



The first line in the LCD indicates Year, Month, Day, Hour, and Minute. The second line indicates the number of active channels/total channels and RAID mode.

By using the LCD and the ＜, ∧, ∨, ＞, ENTER, and ESC buttons located to the right, you can check the system's status and change some of its settings.

- **Up and Down Buttons**: Used to move between menus, and select letters and numbers in text mode.
- **Left and Right Buttons**: Used to move the cursor in text input mode.
- **ENTER Button**: Moves to the next phase.
- **ESC Button**: When pushed, it moves back to the previous phase. When holding it down for 2 seconds or longer, it moves to the main screen displaying the current time and recording status.

Note

The buttons are locked when the front panel key Lock is locked.

5.1. System

On the default LCD screen, press ∧, ∨ to move to the screen shown below and press ENTER.

```
1. System
            [SET]
```

Sub-menus will appear where you can use the ∧, ∨ buttons to navigate.

```
1. Firmware Version
2. Key Beep On/Off
```

```
3. Relay off
4. System Update
```

```
5. Factory Reset
6. Test HDD
```

```
7. System Power Off
```

5.1.1. Checking Firmware Version

Under System, select 1. Firmware Version, and then press Enter. The current firmware version of the system displays as shown in the illustration below.

Below is a sample picture provided for your reference; the firmware version differs depending on the model.

```
Firmware Version
0.1.4-090309
```

5.1.2. Turning On/Off Beep

You can turn the beep of the front panel buttons on or off using this menu item.

Under System, select 2. Key Beep On/Off, and then press ENTER.

```
1. On
2. Off
```

Selecting "1. On" and pressing Enter turns on the beep. Selecting "2. Off" and pressing Enter turns off the beepIn each case, the following messages appear.

```
Key Beep is On!
```

```
Key Beep is Off!
```

Note

The beep sound automatically turns on after rebooting the system, even if it is turned off.

5.1.3. Relay Off

Under System, select 3. Relay Off, and then press ENTER button. The following message appears while Relay 1, 2 outputs on the rear panel are removed.

```
Relays are off!
```

Note

- For detailed instructions on the relay output setup, please refer to “4.6.3. Event Setup”
- The beep sound followed by events occurred is turned off if you press any button on the panel.

5.1.4. System Update

Note

- To update the system, a USB flash drive containing the update file must be connected to the USB port on the rear panel.
- The firmware update file must have a file name that starts with "srn", and a filename extension ".bin".
- The firmware update file must be located in the root directory of the flash drive. If more than one update file exists on the flash drive, the firmware update might not install properly.
- To download the latest firmware files, please visit Support > Download Center at www.samsungcctv.com.

Under System, Select 4. System Update, and then press Enter.

If a USB flash drive containing a firmware update file is detected, the system displays a message prompting to see if you want to continue or stop updating, as shown in the illustration below.

```
Warning! All actions
will be stopped
```

```
Update Firmware?
Yes: Enter  No: Esc
```

When pressing Enter, the following messages appear while the firmware is being updated. Once the update process is complete, the system automatically reboots itself. To move back to a previous phase, press ESC. To cancel the update and move back to the main screen, hold down ESC for 2 seconds or longer.

```
System Update
   is in Progress...
```

```
System will reboot
after 5 seconds
```

```
Rebooting system
   is in Progress...
```

If a USB flash drive is not inserted into the product back panel USB terminal, the following error message appears.

```
There's no usb stick
Check usb please...
```

If a USB flash drive is inserted, but does not contain a firmware update file, the following error message appears.

```
No f/w file in usb
Check usb please...
```

5.1.5. Initializing Settings

Under System, select 5. Factory Reset, and then press ENTER. A message appears on the display prompting you to confirm that you wish to reset all configurations to their defaults.

```
Warning! All actions
Will be stopped
```

```
Are you sure?
Yes: Enter  No: Esc
```

Upon pressing Enter, the following messages appear while settings are being initialized. When initialized, the system reverts to the factory default settings. To move back to a previous phase, press ESC. To cancel the initialization and move back to the main screen, hold down ESC for 2 seconds or longer.

```
Factory reset
   is in Progress...
```

```
System will reboot
after 5 seconds
```

```
Rebooting system
   is in Progress...
```

For more information about the default settings value, please refer to "2.3. Default Settings"

Note

The Factory Reset does not reset the RAID settings of the system or delete data saved in the HDDs.

5.1.6. HDD Check

Under System, select 6. Test HDD, then press Enter. The following messages appear asking you to select an HDD to check.

```
HDD to examine
Internal HDD? [1]
```

```
HDD to examine
RAID PARTITION? [1]
```

Selecting an HDD displays a message asking if you really want to perform disk-checking for the selected HDD.

```
Record on this HDD
will be stopped
```

```
Are you sure?
Yes: Enter  No: Esc
```

When pressing ENTER, the following message appears as the disk-checking process is initiated. Once the process is complete, the screen displays the check results.

```
Executing...
Please Wait!!!
```

```
Examining Int HDD[1]
   is in Progress...
```

```
Examining Int HDD[1]
            [DONE]
```

```
HDD test result:
0 bad block
```

The check results stay on the screen until you click a button.

When selecting an HDD that is not available or connected, the following message appears.

```
Internal HDD [1]
is empty!!
```

```
RAID PARTITION [1]
Does not exist!
```

```
Check HDD to Examine
Please Try Again
```

Note

- While an HDD is being checked, new data is not saved in the HDD or its RAID array. However, if another HDD or another HDD array is available then new data is saved in the HDD or array.
- The HDD disk-checking option is available only for internal HDDs.

5.1.7. Shutting the System Down

Under System, select 7. System Power Off, and then press Enter. The following message appears prompting you for if you really want to shut down the system.

```
Are you sure?
Yes: Enter  No: Esc
```

Upon pressing Enter, the following messages appear while the system shuts down. To move back to the previous phase, press ESC. To cancel shutting down and move back to the main screen, hold down ESC for 2 seconds or longer.

```
Preparing Poweroff
   is in Progress...
```

```
System will be down
in seconds
```

These messages also appear when the power switch on the product back panel is flicked, until the system is completely shut down.

5.2. Network Setup

On the default LCD screen, press ∧, ∨ to move to the screen shown below and press ENTER.

```
2. Network Setup
            [SET]
```

Sub-menus will appear where you can use the ∧, ∨ buttons to navigate.

```
1. Monitoring Port
2. Source Port
```

```
3. Storage Port
```

Note

For information on each network setting and its operation, please refer to "4.6.6. Network Setup"

5.2.1. Monitor Ethernet Port Setup

The Monitor Ethernet Port is a port used to connect your computer to the product.

Under Network Setup, select 1. Monitor Ethernet Port, and press ENTER.

```
1. Use Static IP
2. Use DHCP (Client)
```

```
3. Use PPPoE
4. Use DDNS
```

Use one of the first 3 options to set an IP address for the Monitor Ethernet Port. Selecting menu item 4 lets you to use DDNS instead of an IP address.

❖ Static IP Setting

Press ∧ and ∨ to select 1. Use Static IP, and then press Enter.

```
IP Address
0.0.0.0
```

Press the ∧, ∨ buttons to select numbers (0~9), space, and period (.); press the <, > buttons to move between digits. Once you have finished entering the IP address, press Enter.

```
Subnet Mask
0.0.0.0
```

```
Gateway
0.0.0.0
```

```
DNS1 Server IP
192.168.1.1
```

Enter the Subnet Mask, Gateway, and DNS Server 1 address the same way.

```
Confirm IP Setup?
Yes: Enter  No: Esc
```

Pressing Enter moves to the next screen, as the IP address for Monitor Ethernet Port is being saved. To move back to the previous phase, press ESC. To cancel the new settings and move back to the main screen, hold down ESC for 2 seconds or longer.

```
IP Setup
           [DONE]
```

Note

- The DNS1 address can be set under Monitor Ethernet Port Port > Static IP. The DNS 2 address is under Source Port > Static IP. Once set, these DNS servers are used by all ports.
- DNS1 is used as the default, and DNS2 is the backup.

❖ DHCP Client Setup

Press ∧ and ∨ to select 2. Use DHCP (Client), and then press Enter.

```
Use DHCP Client?
Yes: Enter  No: Esc
```

Pressing Enter moves to the next screen, as Monitor Ethernet Port is updated to use DHCP. To move back to the previous phase, press ESC. To cancel the new settings and move back to the main screen, hold down ESC for 2 seconds or longer.

```
Client Mode Setup
           [DONE]
```

❖ PPPoE Setup

Press ∧ and ∨ to select 3. Use PPPoE, and then press Enter.

```
ID
a
```

Press the ∧, ∨ buttons to select characters (a~z) and spaces; press the <, > buttons to move to the next character. Once you have finished entering the ID to use, press Enter.

```
Password
a
```

Repeat the steps to enter a password, and then press Enter.

```
Confirm PPPoE Setup?
Yes: Enter  No: Esc
```

Pressing ENTER moves to the next screen, as the new PPPoE settings of Monitor Ethernet Port are being saved. To move back to the previous phase, press ESC. To cancel the new settings and move back to the main screen, hold down ESC for 2 seconds or longer.

```
PPPoE Setup
           [DONE]
```

Note

- Changing the network connection method from PPPoE to DHCP or Static IP automatically reboots the system.

❖ DDNS Setup

Press ∧ and ∨ to select 4. Use DDNS, and then press Enter.

```
Server Domain
www.samsungipolis.co
```

The default DDNS server is www.samsungipolis.com. To use a DDNS server other than iPOLiS, use ∧ and ∨ to select from alphanumeric characters (a-z and 0-9), space, and period (.);. use < and > to move between characters and edit the default DDNS address. Press Enter when you've finished entering the DDNS server address.

```
ID
a
```

```
Password
a
```

Repeat the steps to enter the login ID and password of the new DDNS server.

```
Confirm DDNS Setup?
Enter: Yes  Esc: No
```

Pressing Enter moves to the next screen, as the new DDNS settings are being saved. To move back to the previous phase, press ESC. To cancel the new settings and move back to the main screen, hold down ESC for 2 seconds or longer.

```
DDNS Server Setup
           [DONE]
```

5.2.2. Source Ethernet Port Setup

The Source Ethernet Port is used for communication between the product and cameras.
Under Network Setup, select 2. Source Ethernet Port, and then press ENTER.

```
1. Use Static IP
2. Use DHCP (Client)
```

```
3. Use PPPoE
4. Use DHCP (Server)
```

Use one of the first 3 options to set an IP address for the Source Ethernet Port. For detailed instructions on the port setup, please refer to Static IP, DHCP Client, and PPPoE setups under "5.2.1. Monitor Ethernet Port Setup"
Selecting menu item 4 lets you use the DHCP Server option.

❖ DHCP Server Setup

Press ∧ and ∨ to select 4. Use DHCP (Server), and then press Enter.

```
IP Range: from
0
```

Press the ∧, ∨ buttons to select numbers (0~9), space, and period (.); use < and > to move between characters.

```
IP Range: to
0
```

Repeat the steps to enter the ending IP address for the range.

```
Use DHCP Server?
Yes: Enter  No: Esc
```

Pressing Enter moves to the next screen, as the new DHCP Server settings are being saved. To move back to the previous phase, press ESC. To cancel the new settings and move back to the main screen, hold down ESC for 2 seconds or longer.

```
Server Mode Setup
           [DONE]
```

5.2.3. Storage Ethernet Port Setup

The Storage Ethernet Port is used for communication between the product and NAS.

Under Network Setup, select 3. Use Storage Ethernet Port, and then press ENTER.

```
1. Use Static IP
2. Use DHCP (Client)
```

```
3. Use PPPoE
```

Use one of the 3 options to set an IP address for Source Ethernet Port. For detailed instructions on the port setup, please refer to Static IP, DHCP Client, and PPPoE setups under ”5.2.1. Monitor Ethernet Port Setup”

5.3. HDD Mode Setup

On the main screen, press ∧ and ∨ to move to the following screen, and then press Enter.

```
3. HDD Mode Setup
            [SET]
```

Sub-menus will appear where you can use ∧ and ∨ to navigate.

```
1. Normal
2. RAID1
```

```
2. RAID1
3. RAID5
```

Select an HDD operation mode, and then press Enter. The following warning message will appear. Normal is the non-RAID mode.

```
Warning! All Record
data will be removed
```

After displaying this warning message for 3 seconds, the screen moves to the next screen corresponding to the selected mode.

```
Unbuild RAID?
Yes: Enter  No: Esc
```

```
Use RAID1?
Yes: Enter  No: Esc
```

```
Use RAID5?
Yes: Enter  No: Esc
```

Press Enter to change the HDD mode to the selected mode. To move back to the previous phase, press ESC. To cancel the new settings and move back to the main screen, hold down ESC for 2 seconds or longer.

While the new RAID mode is being configured, the following messages appear in order, informing of the progress and remaining time.

```
Preparing RAID1
   is in Progress...
```

```
Rebooting system
   is in Progress...
```

```
Build RAID1: 48.8%
Finish: 37.6min
```

```
RAID1 Setup
           [DONE]
```

(When RAID1 or RAID5 is selected.)

```
Unbuilding RAID
  is in Progress...
```

```
Rebooting system
  is in Progress...
```

```
Unbuilding RAID
           [DONE]
```

(When Normal is selected.)

If the HDD is already set to the new RAID mode, the following message appears.

```
Current HDD mode is
RAID1 mode
```

```
Current HDD mode is
Normal mode
```

```
Check HDD mode and
Please Try Again!
```

If the number of equipped HDDs is not enough, the following message appears. RAID1 requires at least 2 HDDs to be equipped next to each other, HDD1 and HDD2, or HDD3 and HDD4, and RAID5 requires all 4 HDDs to be equipped.

```
There are not enough
HDD to build RAID5
```

```
Check HDD mode and
Please Try Again!
```

Note

- RAID (Redundant Array of Independent Disks) helps you keep data safe in case the system HDD is damaged.
- Selecting RAID1 configures HDD1 and HDD2 as one array, and HDD3 and HDD4 as the other array. RAID1 uses 2 physical HDDs as 1 functional HDD. For instance, configuring HDD1 and HDD2—while each is equipped with a 500GB HDD—to RAID1 displays the system's functional HDD as one 500GB RAID. In the RAID1 mode, no data is lost even if one of the two HDDs of a RAID array is damaged.

- Selecting RAID5 configures 4 HDDs to 1 RAID array. RAID5 uses 4 physical HDDs as 3 functional HDDs. For instance, configuring HDD1, 2, 3, and 4—while each one of them is equipped with a 500GB HDD—to RAID5 displays the system's functional HDD as one 1.5TB RAID. In RAID5 mode, no data is lost even if one of the four HDDs is damaged.
- To configure a RAID mode, HDDs must be the same size. It is highly recommended that you use the same brand and model HDDs to configure RAID.
- RAID settings are available only for internal HDDs.
- Building a RAID mode using 4 x 500GB HDDs takes approximately 3 hours for RAID1, and 4 hours for RAID5.

  (It is recommended to use UPS while configuring RAID because reconfiguring RAID due to a power failure during the first try may take a while.)

Caution

- **Changing the RAID settings to a new mode automatically deletes all data in the HDDs of the product, and new video files are not saved until the new RAID mode is completely configured.**
- **When the product is abnormally turned off, i.e. by pulling the AC power adapter out, and then turned on, the product may reconfigure its RAID settings automatically to ensure the integrity of saved data. While a new RAID mode is being configured, existing data is not lost, but new data will not be saved either.**
- **If more than two RAID configured HDDs are broken or removed from the product, the RAID configuration will malfunction, causing data loss.**
- **During use of the RAID, you should never perform "Remove HDD" from the LCD menu whatsoever.**
- **If any one HDD of the pair fails during RAID operation, it is necessary to replace the defective HDD as soon as possible in order to restore the system stability.**

5.4. Removing HDDs

On the main screen, press ∧ and ∨ to move to the following screen, and then press Enter.

```
4. Remove HDD
            [SET]
```

The screen shown below appears where you can use ∧ and ∨ to select the HDD to remove.

```
HDD Number to remove
Internal HDD? [1]
```

```
HDD Number to remove
External Bay? [1]
```

Select the number for an internal HDD or an external HDD bay, and then press Enter. Upon pressing Enter, the following messages appear while the selected HDD is being removed.

```
Executing...
Please Wait!!!
```

```
Remove Int HDD[1]
           [DONE]
```

```
Remove Ext Bay[1]
           [DONE]
```

Once the [Done] message appears, you may physically remove the HDD from the product.

When selecting an HDD that is not available or connected, the following message appears.

```
Internal HDD[1]
is empty!!
```

```
External Bay[1]
is not connected!!
```

```
Check HDD to Remove
Please Try Again
```

Note

The number for an internal HDD or external HDD bay is determined depending on which product port that you connect to. Available numbers are 1, 2, 3, and 4 from the upper left and right to the bottom left and right. Please Refer to "Chapter 2. Part Names"

5.5. Formatting HDDs

On the main screen, press ∧ and ∨ to move to the screen shown below, and then press Enter.

```
5. HDD Format
            [SET]
```

The screen shown below appears where you can use ∧ and ∨ to select the HDD to format.

```
1. Internal HDD
2. External HDD
```

```
2. External HDD
3. All HDD
```

Caution

Do never format the HDD in the middle of building/rebuilding RAID configuration.

5.5.1. Formatting a Single Internal HDD

Under HDD Format, select 1. Internal HDD, and then press Enter.

```
1. Individual HDD
2. All Internal HDD
```

1. Select 1. Individual HDD, and then press Enter.

```
HDD Number to format
Internal HDD? [1]
```

Use the ^, v buttons to select the number for the HDD to format, then press ENTER.

```
Format HDD [1]?
Yes: Enter  No: Esc
```

Upon pressing Enter, the following messages appear while the selected HDD is being formatted. To move back to the previous phase, press ESC. To cancel formatting and move back to the main screen, hold down ESC for 2 seconds or longer.

```
Formatting HDD
  is in Progress...
```

```
HDD Format
            [DONE]
```

When selecting an HDD that is not available or connected, the following message appears.

```
Internal HDD[1]
is empty!!
```

```
Check HDD to format
Please Try Again!
```

5.5.2. Formatting All Internal HDDs

Under HDD Format, select 1. Internal HDD, and then press Enter.

```
1. Individual HDD
2. All Internal HDD
```

2. Select All HDD, and then press Enter.

```
Format All HDD?
Yes: Enter  No: Esc
```

Upon pressing Enter, the following messages appear while all internal HDDs are being formatted. To move back to the previous phase, press ESC. To cancel formatting and move back to the main screen, hold down ESC for 2 seconds or longer.

```
Formatting HDD
   is in Progress...
```

```
HDD Format
            [DONE]
```

5.5.3. Formatting a Single External HDD

Under HDD Format, select 2. External HDD, and then press Enter.

```
Bay Number to format
External Bay? [1]
```

Use ∧ and ∨ to select the number for the external HDD bay containing the HDD to format, then press Enter.

```
1. Individual HDD
2. All HDD in Bay[1]
```

1. Select 1. Individual HDD, and then press Enter.

```
HDD Number to format
Internal HDD? [1]
```

Use ∧ and ∨ to select the number for the external HDD bay containing the HDD to format, and then press Enter.

```
Format HDD [1]?
Yes: Enter  No: Esc
```

Upon pressing Enter, the following messages appear while the selected HDD is being formatted. To move back to the previous phase, press ESC. To cancel formatting and move back to the main screen, hold down ESC for 2 seconds or longer.

```
Formatting HDD
  is in Progress...
```

```
HDD Format
           [DONE]
```

When selecting an HDD that is not available or connected, the following message appears.

```
External Bay[1]
is not connected!!
```

```
External Bay[1]
is not connected!!
```

5.5.4. Formatting All External HDDs

Under HDD Format, select 2. External HDD, and then press Enter.

```
Bay Number to format
External Bay [1]
```

Use ∧ and ∨ to select the number for the external HDD bay containing the HDD to format, and then press Enter.

```
1. Individual HDD
2. All HDD in Bay[1]
```

2. Select All HDD in Bay[#], and then press Enter.

```
Format Bay[1]?
Yes: Enter  No: Esc
```

Upon pressing Enter, the following messages appear while the entire HDDs of the selected external bay are being formatted. To move back to the previous phase, press ESC. To cancel formatting and move back to the main screen, hold down ESC for 2 seconds or longer.

```
Formatting HDD
  is in Progress...
```

```
HDD Format
           [DONE]
```

5.5.5. Formatting All HDDs

Under HDD Format, select 3. All HDD and then press Enter.

```
Format All HDD?
Yes: Enter  No: Esc
```

Upon pressing Enter, the following messages appear while all HDDs—both internal and external—are being formatted. To move back to the previous phase, press ESC. To cancel formatting and move back to the main screen, hold down ESC for 2 seconds or longer.

```
Formatting HDD
  is in Progress...
```

```
HDD Format
           [DONE]
```

Troubleshooting

1. Cannot boot.

- Check power.
- Check power cord.

2. Some channels fail to display video.

- Check camera power.
- Check camera video output.
- Check Recorder's input port.

3. Video is not stored.

- Check the connection of HDDs on the HDD Setup page.
- Check the free space of HDDs.
- Check video recording setup.

4. Stored video does not play.

- Check video recording setup.

5. Video is too bright or too dark.

- Check camera setup.

6. Front panel buttons do not work.

- Check power.
- Check Key Lock status.

7. Network does not function.

- Check network cable connection.
- Check Recorder's IP setup.
- Check PC's IP setup.
- Run Ping Test.
- If Web Viewer fails to show video on a PC, check the PC's technical specifications.

8. You must contact your vendor when…

If you are experiencing any of the following issues, you must stop using the product and turn the power off immediately, then contact your vendor for assistance.

- If you need to add or replace a HDD
- Product is behaving strangely (example: unusual noises, smells, or smoke is coming from the product.)
- The power cable connector has been damaged.
- Rain or other liquid has entered the product.
- You have spilled liquid into the product, or foreign material has entered the product.
- The product does not work as specified in this instruction manual.
- The product has been dropped and severely damaged.
- There is a noticeable degradation in the performance of the product.

Nota

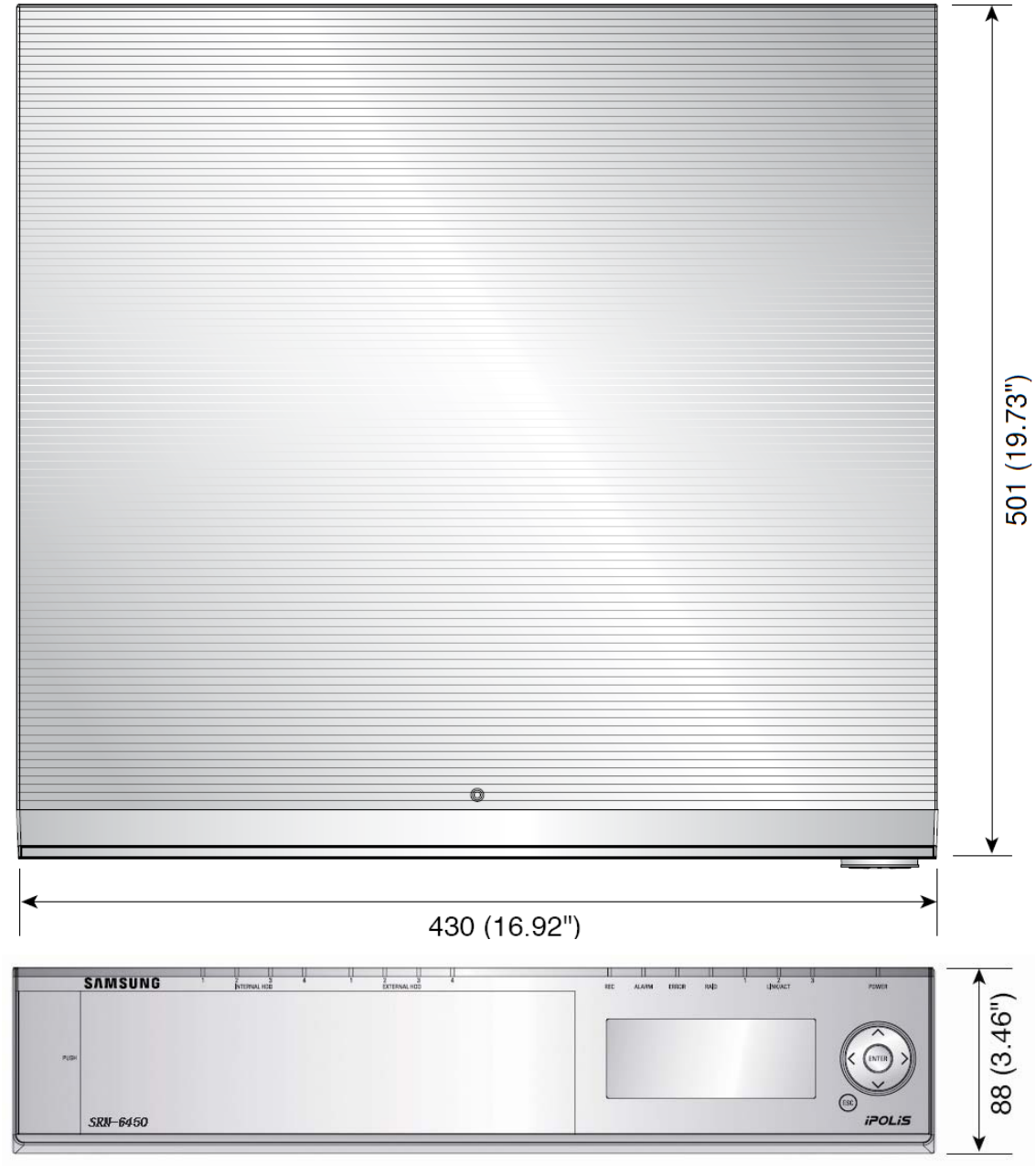
Before installing an additional HDD or connecting an external storage device (USB memory or USB HDD) to this DVR, check the compatibility. For the compatibility list, contact your retailer.

Product Specifications

		SRN-6450/SNR-6400	SRN-3250/SNR-3200
DISPLAY			
Video	IP Camera Inputs	64 channels	32 channels
Web Support	Live	1, 4, 9, 16, 36, 64 channels simultaneously	1, 4, 9, 16, 32 channels simultaneously
	Search	1 channel	
	Control	Pan / Tilt / Zoom / Focus for available camera	
	Configuration	IP, Port, ID, Password, Picture type, Video Quality, Resolution, Framerate	
PERFORMANCE			
Recording	Compression (IP)	H.264,MPEG-4,M-JPEG , supported by the connected camera	
	Bandwidth	Up to 48Mbps (Up to 8Mbps each camera)	Up to 36Mbps (Up to 8Mbps each camera)
	Record Rate / MEGA	Up to 160fps@2048x1536	Up to 60fps@2048x1536
		Up to 320fps@1280x1024	Up to 120fps@1280x1024
	Record Rate / NTSC	Up to 1,280fps@704 x 480	Up to 480fps@704 x 480
		Up to 1,920fps@704 x 240	Up to 960fps@704 x 240
		Up to 1,920fps@352 x 240	Up to 960fps@352 x 240
	Record Rate / PAL	Up to 1,152fps@704 x 576	Up to 480fps@704 x 576
		Up to 1,600fps@704 x 288	Up to 800fps@704 x 288
		Up to 1,600fps@352 x 288	Up to 800fps@352 x 288
	* Mode	Manual, Schedule (Normal / Event)	
	Overwrite Modes	Continuous	
	Pre-alarm	Up to 5sec	
	Post-alarm	Up to 60sec	
Search & Playback	Search Mode	Time, Event, Calendar	
	Playback Function	REW, FWD (Depends on CMS)	
Network	Bandwidth Control	Automatic (Automatic Transmission Control)	
	Remote Users Maximum	5 Users simultaneously	
	Protocol Support	TCP/IP, DHCP, DNS, DDNS, HTTP, ARP, ICMP, NTP, RTP/RTCP, RTSP	
	Monitoring	CMS Software Net-I Viewer, Built-in web server	
Storage	Maximum Capacity	Up to 20TB using external storage option	

	RAID	Normal, RAID1, RAID5	Normal, RAID1
	Internal HDD	Up to 4 SATA HDDs	
	External HDD	Up to 4 expansion bays (up to 4 HDD each)	
	NAS	Up to 4 NAS connections (CIFS/Samba)	
Security	Password Protection	2 User Level	
INTERFACE			
Monitor	DOT Matrix LCD	20 x 2 status display	
Alarm	Inputs	Screw terminal 2 inputs, NO/NC	
	Outputs	Screw terminal 2 relay outputs, NO/NC	
	Remote Notification	Notification via e-mail	
Connections	Ethernet	3 (RJ-45 100/1000 Base-T), 1 (RJ-45 100Base-T)	
	Serial Interface	RS-232C	
	USB	2 USB 2.0 ports (firmware upgrade)	
	eSATA	4 External SATA ports	
Supported IP Cameras		Samsung Techwin network products, AXIS network cameras (VAPIX,MPEG4 Modes, limited some functions)	
GENERAL			
Electrical	Input Voltage	100 ~ 240 V AC ±10%, 50/60 Hz, Auto ranging	
	Power Consumption	Max. 110W (with 1xHDD)	
		Max.130W (with 4xHDD)	
Environmental	Operating Temperature	+5°C ~ +40°C (+41°F ~ +104°F)	
	Humidity	0%RH ~ 60%RH	
Mechanical	Dimensions (WxHxD)	430 x 88 x 501 mm (16.92" x 3.46" x 19.73 ")	
	Weight (4 HDDs)	Approx. 11kg (24.25 lb)	
	Rack Mount Kit	For mounting one unit in an EIA 19 inch rack	
Language (LCD)		English	
Certification		FCC (Class A), cUL/UL listed, CE (Class A)	

Product Dimensions



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